OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

VIRGINIA MEDICAL MONTHLY

PROGRAM ISSUE

SEPTEMBER, 1958

POSITIVE RESULTS AGAINST MANY GRAM-NEGATIVE INVADERS

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REFERENCES: (1) Schneierson, S. S.: *J. Mt. Sinai Hosp.* **25**:52, 1958. (2) Waisbren, B. A.: *Wisconsin M. J.* **57**:89, 1958. (3) Ritts, R. E., Jr.; Mao, F. H., & Favour, C. B., in Welch, H., & Marti-Ibanez, F.: Antibiotics Annual 1957-1958, New York, Medical Encyclopedia, Inc., 1958, p. 774. (4) Rhoads, P. S.: *Postgrad. Med.* **21**:563, 1957. (5) Roy, T. E.; Collins, A. M.; Craig, G., & Duncan, I. B. R.: *Canad. M.A.J.* **77**:844, 1957. (6) Hasenclever, H. F.: *J. Iowa M. Soc.* **47**:136, 1957. (7) Holloway, W. J., & Scott, E. G.: *Delaware M. J.* **29**:159, 1957. (8) Waisbren, B. A., & Strelitzer, C. L.: *Arch. Int. Med.* **99**:744, 1957. (9) Derham, R. J., & Rogerson, M. M.: *J. Dis. Child.* **93**:113, 1957. (10) Murphy, J. J., & Rattner, W. H.: *J.A.M.A.* **166**:616, 1958. (11) Rabe, E. F.: *Pennsylvania M. J.* **61**:209, 1958. (12) Rosenthal, I. M.: *GP* **17**:77 (March) 1958.

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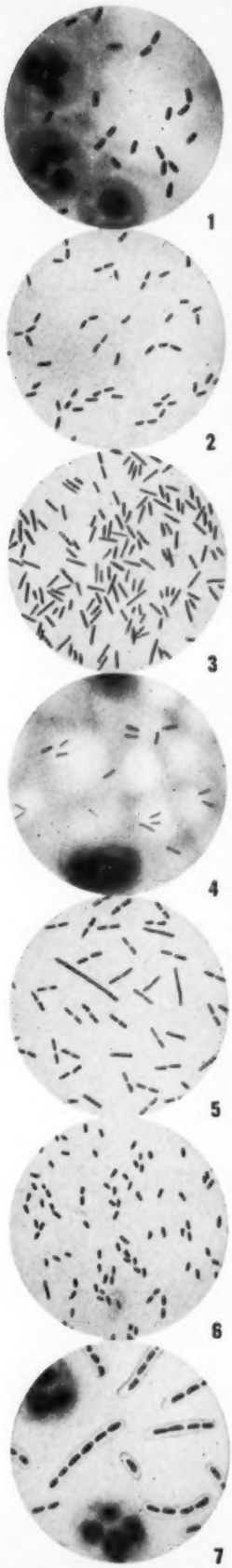
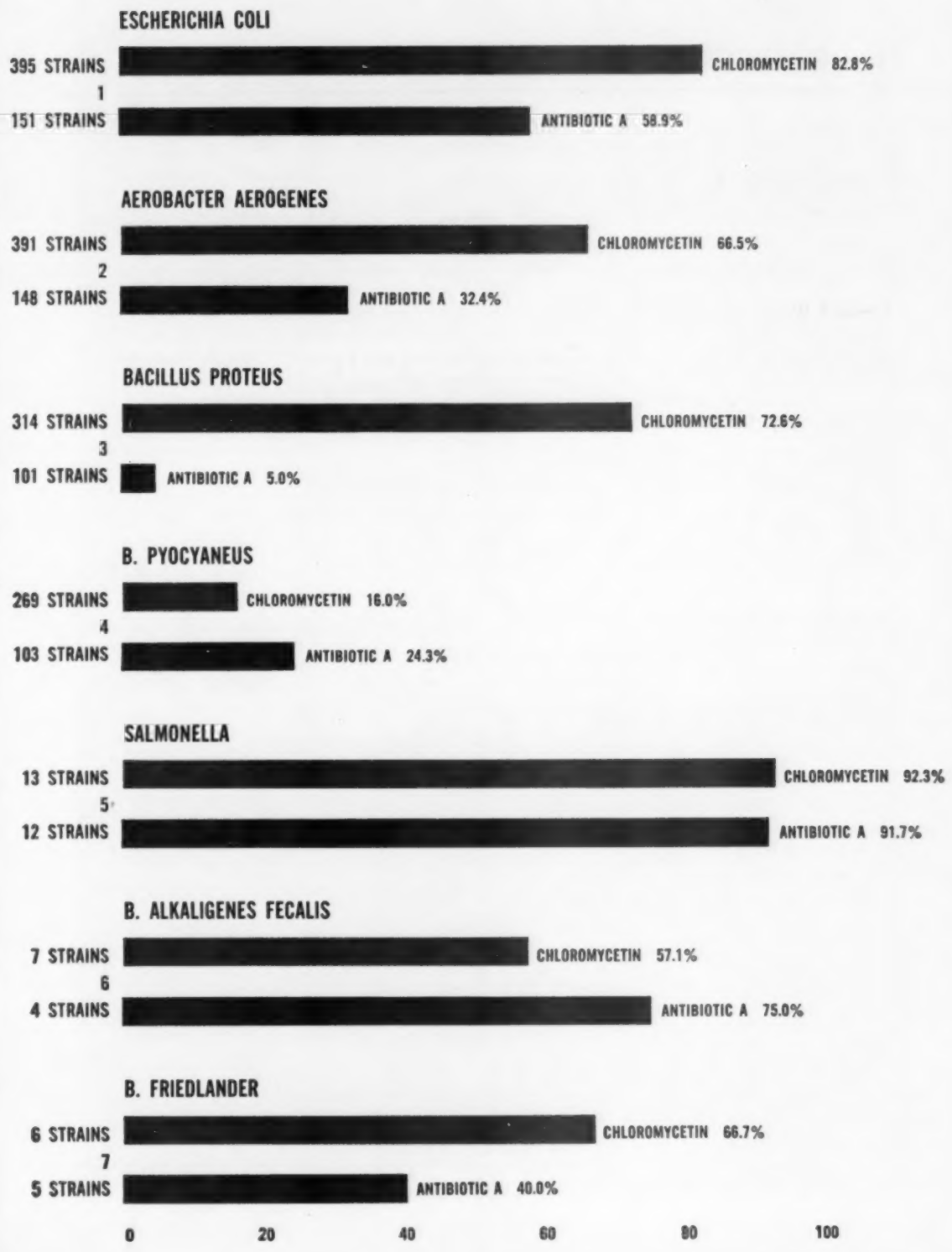


IN VITRO SENSITIVITY OF SEVEN GRAM-NEGATIVE PATHOGENS TO CHLOROMYCETIN AND TO ANOTHER WIDELY USED ANTIBIOTIC*



*Adapted from Schneierson.[3]

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(1) Hagedorn, A. B.: Proc. Staff Meet. Mayo Clin. 32:705 (Dec. 11) 1957.
(2) Best, W. R.; Louis, J., and Limarzi, L. R.: M. Clin. North America (Jan.) 1958, p. 3.

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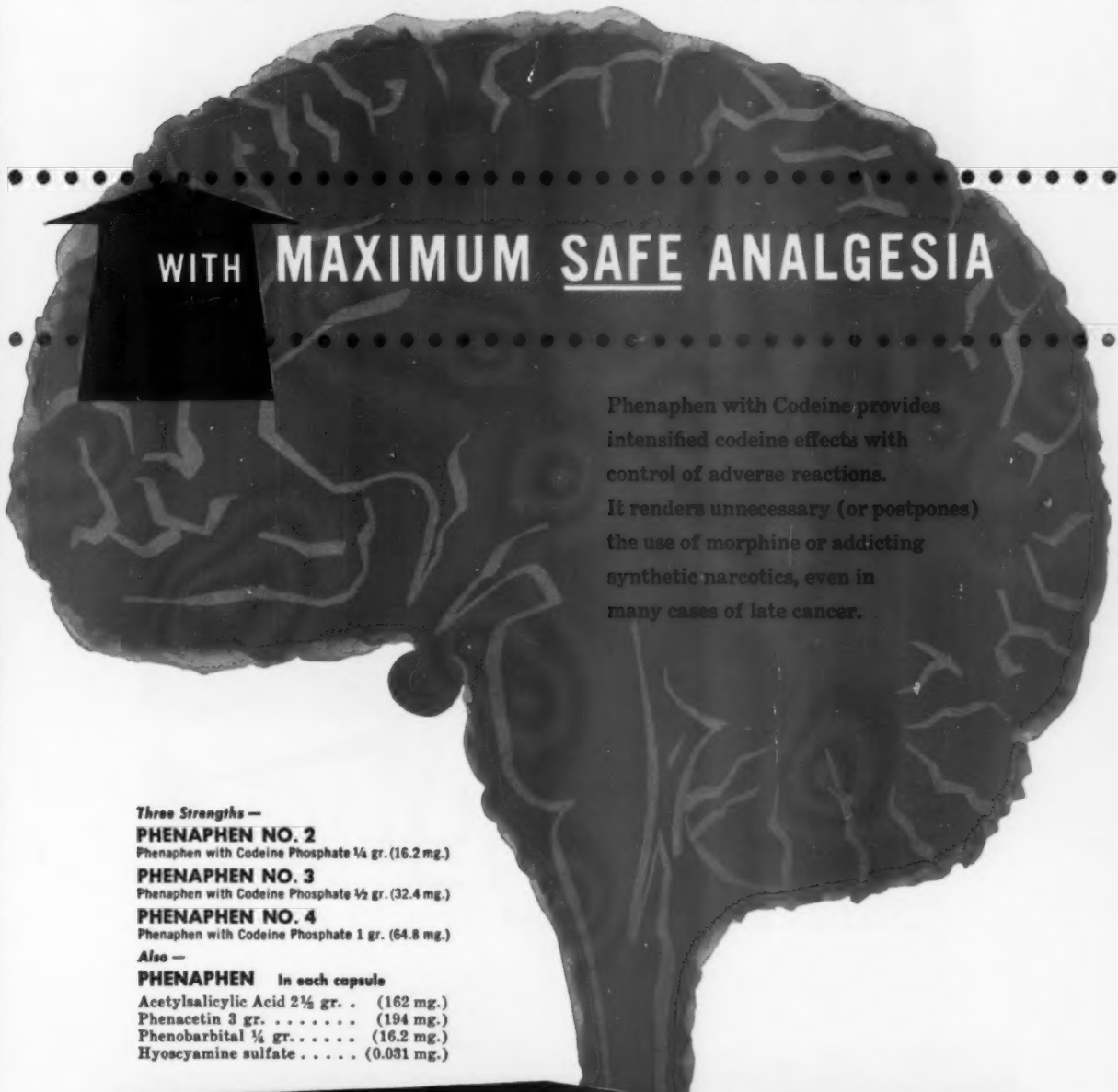

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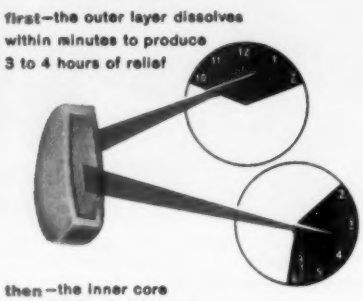
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As a result, MAZOLA CORN OIL is unusually well suited for helping achieve dietary adjustments commonly recommended by authorities on nutrition—that from one-third to one-half of the total fat in-take should be of the unsaturated type when serum cholesterol control is a problem.

Being a natural food, MAZOLA CORN OIL can be included as part of the every day meals—simply and without disturbing the patient's usual eating habits.

Each Tablespoonful of Mazola® Corn Oil Provides Approximately 126 Calories—and:

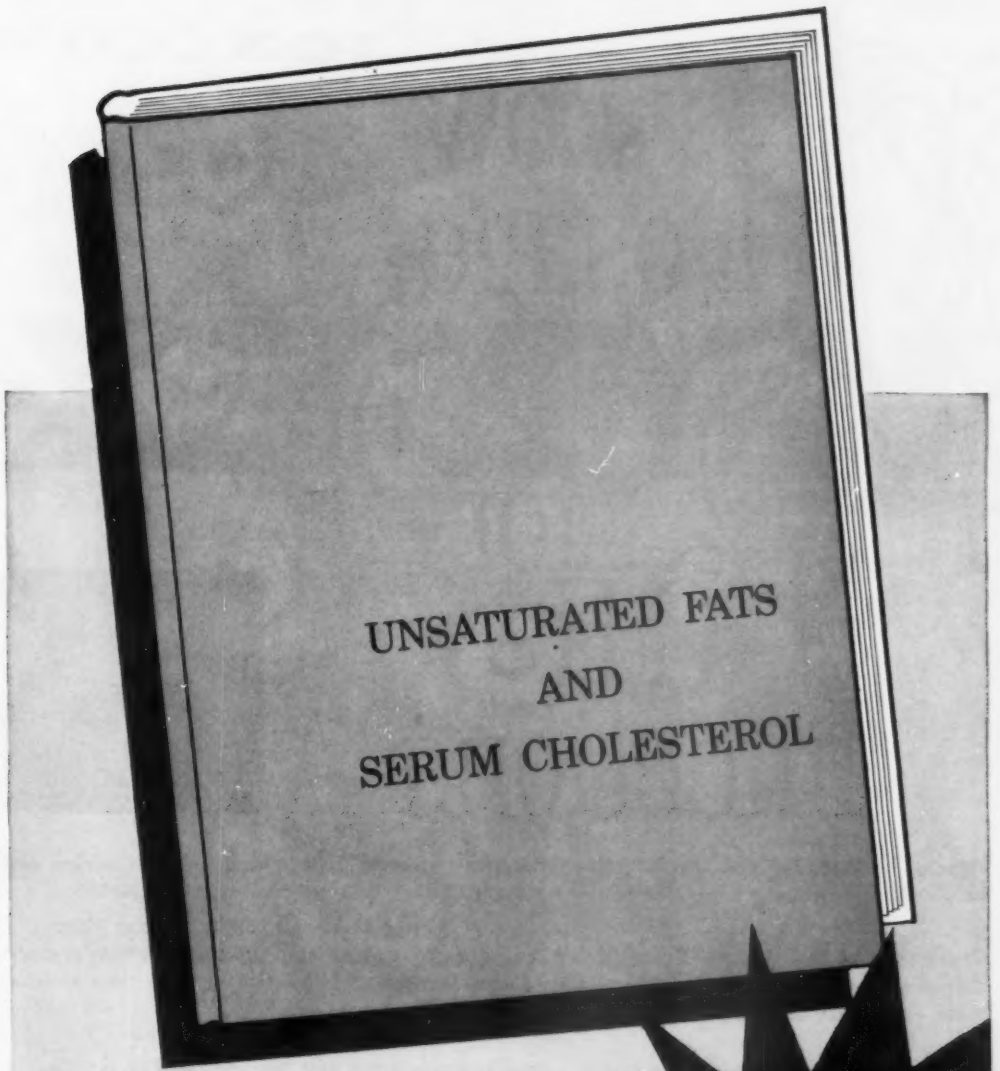
Linoleic Acid	7.4 Gm.
Sitosterols	130 mg.
Natural Tocopherols	15 mg.

Typical Amounts Per Diet

For a 3600 calorie diet — 3 tablespoonsful
For a 3000 calorie diet — 2.5 tablespoonsful
For a 2000 calorie diet — 1.5 tablespoonsful

®Reg. U. S. Pat. Off.

CORN PRODUCTS REFINING COMPANY



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Low Dosage KYNEX* for G.U. Infections

Sulfamethoxypyridazine Lederle

Unusual Antibacterial and Anti-infective Properties—More soluble in acid urine[1] . . . higher and better sustained plasma levels than any other known and useful antibacterial sulfonamide.[2]

Unprecedented Low Dosage—Less sulfa for the kidney to cope with . . . yet fully effective. A single daily dose of 0.5 to 1.0 Gm. maintains higher plasma levels than 4 to 6 Gm. daily of other sulfonamides—a notable asset in prolonged therapy.[2]

Dosage: The recommended adult dose is 1 Gm. (2 tablets) the first day, followed by 0.5 Gm. (1 tablet) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours.

KYNEX—WHEREVER SULFA THERAPY IS INDICATED

Tablets: Each tablet contains 0.5 Gm. (7½ grains) of sulfamethoxypyridazine. Bottles of 24 and 100 tablets.

Syrup: Each teaspoonful (5 cc.) of caramel-flavored syrup contains 250 mg. of sulfamethoxypyridazine. Bottle of 4 fl. oz.

references:

1 Grieble, H.G., and Jackson, G.G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958

2. Editorial: *New England J. Med.* 258:48-49, 1958.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

*Reg. U. S. Pat. Off.

NICOZOL w/Reserpine

for the aged patient

. . . when mental decline
is complicated by
marked agitation

NICOZOL w/Reserpine

helps reverse cerebral
deterioration . . . while it
stimulates body function . . .
and calms the emotions.

for a 3-way synergistic action . . .

Each tablet NICOZOL w/Reserpine contains:

Pentylenetetrazol	100 mg. (cerebral stimulant & analeptic)
Niacin	50 mg. (vasodilator)
Reserpine	0.25 mg. (tranquilizer-sedative)

Clinically Established[1, 2]

In studies of 75 patients (average age—72), with typical mental and emotional symptoms together with alternate periods of depression and agitation, 87% showed gratifying response to NICOZOL w/RESERPINE.

"This therapy afforded relief of agitation . . . improved memory, behavior, sociability, appearance and tidiness. Symptoms of confusion, aggressiveness, hostility and disorientation also were relieved." Fewer side effects were noted.

AT HOME . . . NOT IN A HOME

". . . patients who otherwise would have required institutionalized care were managed at home . . . ."[2]

Prescribed early, NICOZOL w/RESERPINE may avoid "later commitment to nursing homes or state hospitals."[1, 2]

Write for professional samples and literature

DRUG Specialties INC.

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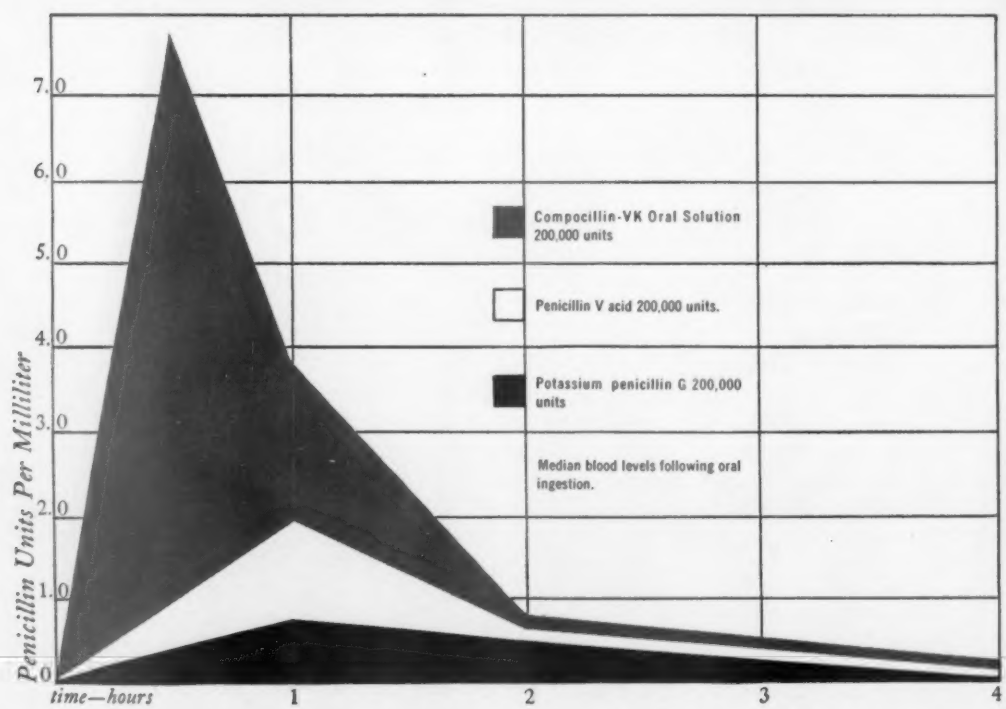
WINSTON-SALEM N. C.

1. Proctor, R. C.: Clin. Med. 6: 717 (June) 1957
2. Proctor, H. ., Bailey, W. H. and Morehouse, W. G.: J. Am. Geriatrics Soc. (April) 1958.

Now–from Abbott Laboratories–

Good-tasting, cherry-flavored . . .



an oral solution of potassium penicillin V

plus the higher blood levels of potassium penicillin V

POTASSIUM PENICILLIN V

Compocillin®-VK

granules for oral solution

Now, for oral administration, COMPOCILLIN-VK Granules offer you a solution of potassium penicillin V. Developed by Abbott Laboratories, the granules are dry and easily reconstituted with water.

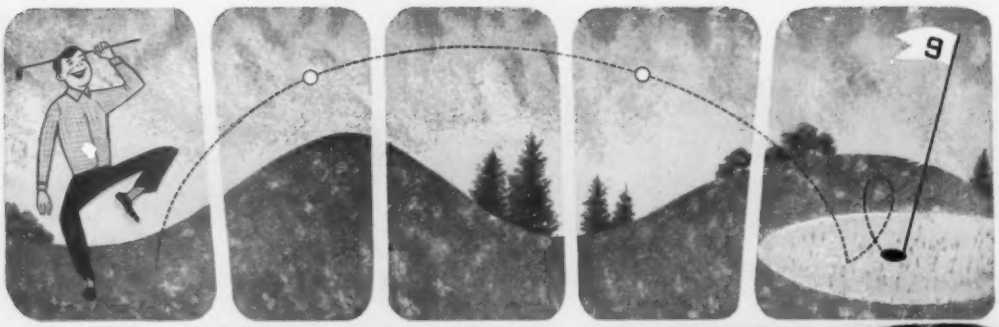
The clear, red solution has a fresh, cherry flavor, is taste-tested and is well-accepted by patients. And they'll get those high potassium penicillin V blood levels (note chart).

COMPOCILLIN-VK is indicated for all infections susceptible to oral penicillin therapy. Also, in treating recurring rheumatic fever and in managing rheumatic carditis. COMPOCILLIN-VK may be used in counteracting complications from severe viral attacks.

The initial recommended dose: In acute infections, the range is from 125 mg. (200,000 units) three times daily to 250 mg. (400,000 units) every four hours. For young children, the adult dose may be reduced in proportion to age and weight. For prophylactic use, 125 mg. (200,000 units) may be administered once or twice daily.

COMPOCILLIN-VK Granules for Oral Solution come in 40-cc. and 80-cc. bottles. Each 5-cc. teaspoon of the reconstituted solution represents 125 mg. (200,000 units) of potassium penicillin V. The dry granules stay stable under ordinary room temperatures. When reconstituted, the solution will remain potent for two weeks under refrigeration.

Abbott



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HYCOMINE® Syrup

THE COMPLETE Rx FOR COUGH CONTROL

cough sedative / antihistamine / expectorant

- relieves cough and related symptoms in 15-20 minutes
- effective for 6 hours or longer • promotes expectoration
- rarely constipates • cherry-flavored

Each teaspoonful (5 cc.) contains:

Hycodan®		
Dihydrocodeinone Bitartrate (Warning: May be habit-forming)	5 mg.	6.5 mg.
Homatropine Methylbromide	1.5 mg.	
Pyrilamine Maleate		12.5 mg.
Ammonium Chloride		60 mg.
Sodium Citrate		85 mg.

Adult Dosage: one teaspoonful q. 6 h. May be habit-forming.
Federal law permits oral prescription.

Endo

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Richmond Hill 18, New York

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New Neo-Synephrine®

Compound

Cold Tablets

for "Syndromatic" Control of
the Common Cold and Allergic Rhinitis

Neo-Synephrine now has three complementary compounds added to its own dependable, decongestive action for more complete control of the common cold syndrome.

The "syndromatic" action of Neo-Synephrine Compound Cold Tablets brings new and greater effectiveness to the treatment of the common cold syndrome.

protection... through the full range of common cold symptoms

Each tablet contains:

for **NASAL STUFFINESS, TIGHTNESS, RHINORRHEA**

NEO-SYNEPHRINE HCl 5 mg...... First choice in decongestants for its mild but durable action and excellent tolerance.

for **ACHES, CHILLS, FEVER**

ACETAMINOPHEN 150 mg. ..... Dependable analgesic and antipyretic

for **RHINORRHEA, ALLERGIC MANIFESTATIONS**

THENFADIL® HCl 7.5 mg. ..... Effective antihistaminic to relieve rhinorrhea and enhance mucosal resistance to allergic complications.

for **LASSITUDE, MALAISE, MENTAL DEPRESSION**

CAFFEINE 15 mg.

DOSE: ***Adults:*** 2 tablets three times daily.
Children 6 to 12 years: 1 tablet three times daily.

Bottles of 20 and 100 tablets.

Neo-Synephrine (brand of phenylephrine) and Thenfadil (brand of thenyldiamine), trademarks reg. U.S. Pat. Off.

Winthrop LABORATORIES · NEW YORK 18, N. Y.

- postoperatively
- in pregnancy when vomiting is persistent
- following neurosurgical diagnostic procedures
- in infections, intra-abdominal disease, and carcinomatosis
- after nitrogen mustard therapy

for nausea and vomiting

VESPRIN

Squibb Triflupromazine

- provides prompt, potent, and long-lasting control
- capable of depressing the gag reflex
- effective in cases refractory to other potent antiemetic agents
- may be given intravenously, intramuscularly and orally
- no pain or irritation on injection

ANTIEMETIC DOSAGE:
Intravenous: 8 mg. average single dose
Dosage range 2-10 mg.
Intramuscular: 15 mg. average single dose
Dosage range 5-15 mg.
If subsequent parenteral dose is needed, one-half the original dose will usually suffice
Oral: 10-20 mg. initially; then 10 mg. t.i.d.

SUPPLY:
Parenteral solution – 1 cc. ampuls (20mg./cc.)
Oral tablets – 10 mg., 25 mg., 50 mg., in bottles of 50 and 500

SQUIBB *Squibb Quality – The Priceless Ingredient*

"VESPRIN" ® IS A SQUIBB TRADEMARK

new

Tao*

Trend of triacetyloleandomycin with p-ACCESSORY

Capsules / Oral Suspension

designed for effective control of common gram-positive infections

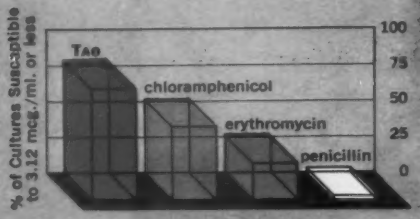
effective . . .

CLINICAL RESULTS	adults	children	all Staph infections
Cured	172 (80%)	148 (89%)	71 (88%)
Improved	28 (13%)	8 (5%)	7 (9%)
Failure	17 (7%)	11 (6%)	3 (3%)

Types of infecting organisms: The majority of identified etiologic microorganisms were Staph. aureus and Staph. albus. Tao has its greatest usefulness against organisms such as: staphylococci (including strains resistant to other antibiotics), streptococci (beta-hemolytic strains, alpha-hemolytic strains and enterococci), pneumococci, gonococci, Hemophilus influenzae.

even against resistant staph[1,2] . . .

Per cent of "antibiotic-resistant" epidemic staphylococci cultures susceptible to Tao, erythromycin, penicillin and chloramphenicol.[1]



well tolerated . . .

REACTIONS:

(a) adults	(b) children
Total—9.2% (20 out of 217)	Total—0.6% (1 out of 167)
Skin rash—1.4% (3 out of 217)	Skin rash—none
Gastrointestinal—7.8% (17 out of 217)	Gastrointestinal—0.6% (1 out of 167)

There was complete freedom from adverse reactions in 94.5% of all patients. Side effects in the other 5.5% were usually mild and seldom required discontinuance of therapy.

plus . . . stability in gastric acid • rapid, high and sustained blood levels • high urinary concentrations • outstanding palatability in a liquid preparation.

Dosage and Administration: Dosage varies according to the severity of the infection. For adults, the average dose is 250 mg. q.i.d.; to 500 mg. q.i.d. in more severe infections. For children 8 months to 8 years of age, a daily dose of approximately 30 mg./Kg. body weight in divided doses has been found effective. Since Tao is therapeutically stable in gastric acid, it may be administered at any time, without regard to meals.

Supplied: Tao Capsules—250 mg. and 125 mg.; bottles of 60. Tao for Oral Suspension—1.5 Gm.; 125 mg. per teaspoonful (5 cc.) when reconstituted; unusually palatable cherry flavor; 2 oz. bottle.

References: 1. English, A. R., and Fink, F. C.: Antibiotics & Chemother. (Aug.) 1958. 2. English, A. R., and McBride, T. J.: Antibiotics & Chemother. (Aug.) 1958. 3. Wennersten, J. R.: Antibiotic Med. & Clin. Therapy (Aug.) 1958. 4. Celmer, W. D., et al.: Antibiotics Annual 1957-1958, New York, Medical Encyclopedia, Inc., 1958, p. 476.

Rx PFIZERIC NEW YORK 17, N. Y.

Division, Chas. Pfizer & Co., Inc. DEVOTED FOR THE WORLD'S WELL-BEING

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new 3-way build-up for the under par child...

Improve appetite and energy
with ample amounts of vitamins—B_1, B_6, B_{12}.

strengthen bodies with needed protein
Through the action of l-Lysine, cereal and other low-grade protein foods are up-graded to maximum growth potential.

discourage nutritional anemia
with iron in the well-tolerated form of ferric pyrophosphate...plus sorbitol for enhanced absorption of both iron and B_{12}.

new

LINCREMIN*

Lysine-Vitamins

WITH IRON SYRUP

delicious cherry flavor— no unpleasant aftertaste

Average dosage is 1 teaspoonful daily. Available in bottles of 4 and 16 fl. oz.

Each teaspoonful (5 cc.) contains:

l-Lysine HCl	300 mg.
Vitamin B_{12} Crystalline	25 mcgm.
Thiamine HCl (B_1)	10 mg.
Pyridoxine HCl (B_6)	5 mg.
Ferric Pyrophosphate (Soluble)	250 mg.
Iron (as Ferric Pyrophosphate)	30 mg.
Sorbitol	3.5 Gm.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York Lederle

*Reg. U. S. Pat. Off.

Bed of Digitalis purpurea
with Campanula (Canterbury Bells) in foreground

Not far from here are manufactured
from the powdered leaf
Pil. Digitalis (Davies, Rose)
0.1 Gram (1½ grains) or 1 U.S.P. Digitalis Unit.
They are physiologically standardized,
with an expiration date on each package.
Being Digitalis in its completeness,
this preparation comprises the
entire therapeutic value of the drug.
It provides the physician with a safe and effective
means of digitalizing the cardiac patient
and of maintaining the necessary saturation.
Security lies in prescribing the
"original bottle of 35 pills, Davies, Rose."

Clinical samples and literature sent to physicians on request

Davies, Rose & Co., Ltd. Boston 18, Mass.

For Speedier Return to Normal Nutrition

Meat...

in Inflammatory Conditions of the Colon

The physiologic depletion accompanying acute infectious and inflammatory conditions of the bowel makes replacement therapy the key to nutritional rehabilitation.

In addition to the loss of important electrolytes, such as potassium and sodium, large amounts of protein are lost in the fluid, blood and exudate from the bowel. In the acute state of such affections, utilization of what protein can be ingested is further affected by increased protein catabolism and by impairment of certain hepatic functions.

Dietary rehabilitation must be carried out within the framework of a diet restricted in fiber and in irritating substances. Foods allowed must be easily digested and appetizingly and attractively prepared to encourage eating.

Tender lean meats—finely ground in the initial diet and later served in a wide variety of appealing ways—can be an important source of the protein and minerals required by the convalescing patient.

Meat fits admirably into the requirements of the permitted diet not only because of its taste, digestibility, and physical characteristics, but also because of its contribution of high quality protein, the minerals potassium, iron, phosphorous, sodium, and magnesium, and all the known B vitamins.

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

American Meat Institute
Main Office, Chicago...Members Throughout the United States

LEDERLE LABORATORIES

A Division of AMERICAN CYANAMID COMPANY

INTEROFFICE CORRESPONDENCE

Pearl River, N. Y. 7/18/58

OFFICE DATE

TO: Advertising Department COPY TO:

ATT'N: J. D. Roberts

FROM: C. K. Howe, Sales

Jim --

Here's a question a number of our detail men have tossed at me. Why doesn't Lederle's advertising for ACHROMYCIN V Tetracycline play up higher, faster blood levels the way so many of our competitors do?

As you know, new laboratory studies show pretty conclusively that ACHROMYCIN V is unexcelled in this department.

How come we haven't turned on the heat in our ads?

C. K. Howe

CKH:ls

LEDERLE LABORATORIES

A Division of AMERICAN CYANAMID COMPANY

INTEROFFICE CORRESPONDENCE

Marked OK CKH

Pearl River, N. Y. 7/21/58

OFFICE DATE

TO: Sales Department COPY TO:

ATT'N: C. K. Howe

FROM: J. D. Roberts

Charlie --

Sure ACHROMYCIN V Tetracycline blood levels are unsurpassed in the latest laboratory study. But actually how significant are any of these blood levels, clinically? It's really a matter of micromilligrams and fractional minutes! Let's not put Lederle in the position of giving this sort of evidence more emphasis than it deserves.

I think our job is to let doctors know that Lederle Research developed ACHROMYCIN V to give improved results under actual clinical conditions . . . to get a higher percentage of antibiotic to the tissues.

The fact that ACHROMYCIN V is the most widely prescribed broad-spectrum antibiotic ought to be pretty good evidence that physicians are consistently getting these results.

If your detail men will give doctors the complete story on antibiotics, I think ACHROMYCIN V prescriptions will continue to climb without any fancy blood level advertising.

J. D. Roberts

JDR:ep

T
a
A

NONSYSTEMIC ANTACID

NO INTERFERENCE WITH PEPSIN ACTION IN STOMACH

DOES NOT ALTER PH OF BLOOD

NO SECONDARY ACID RISE

DOES NOT ALTER PH OF STOMACH

SOOTHING, PROTECTIVE COATING

NON-CONSTIPATING

DOES NOT CAUSE DIARRHEA

CANNOT PRODUCE AN ALKALOSIS

The palatable approach to ANTACID ACTION

FORMULA:

Each teaspoonful (5 cc.) contains:

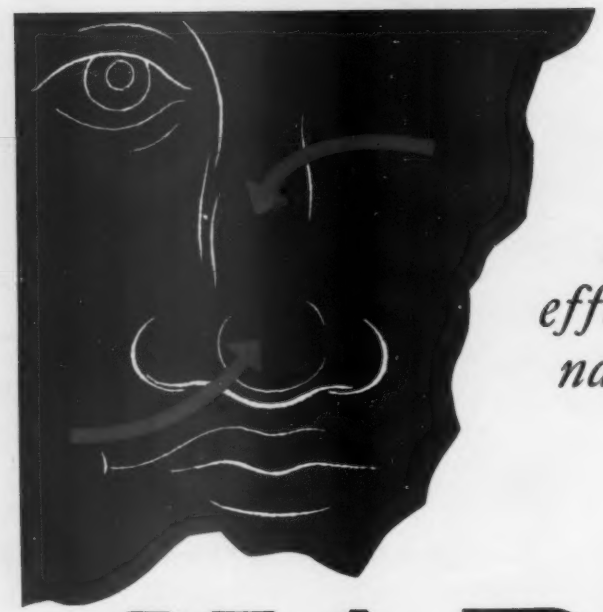
Sodium Carboxymethylcellulose gel	3.0 GR.
Magnesium Trisilicate	7.5 GR.

(Special air floated has twice the absorptive power as regular U. S. P.)

TRIMAGMA

JONES and VAUGHAN, INC., RICHMOND 26, VIRGINIA

J. and V.



a more effective nasal decongestant

NADEC®
TABLETS

NADEC®
TDC (TIMED DISINTEGRATION CAPSULES)

for prompt, more complete, day-and-night relief in the ***common cold nasal allergies sinusitis***

Realistic dosage of the potent vasoconstrictor, phenylephrine hydrochloride, combined with the dependable antihistamine, pyrilamine maleate... for mutually enhancing, oral efficacy in clearing stuffy nose, combatting allergic turgidity, draining clogged sinuses, relieving postnasal drip.

patients breathe easier, feel so much more comfortable

NADEC provides	in each tablet	in each TDC*
Phenylephrine HCl U.S.P.	10 mg.	15 mg.
Pyrilamine Maleate U.S.P.	25 mg.	45 mg.

*Timed Disintegration Capsule affords up to 8 hours relief.

DOSAGE: 1 to 2 tablets p.c. Children 1 tablet, p.c. or 1 capsule b.i.d., 12 hours apart (adults)

SUPPLIED: Bottles of 100 green tablets or orange T.D. Capsules

PDR
PAGE 805

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THE TILDEN COMPANY • New Lebanon, N. Y.
Oldest Manufacturing Pharmaceutical House in America • Founded 1824

you and your patient
can see the improvement

with

METIMYD®

Ophthalmic Suspension
prednisolone, 0.5%,
plus sulfacetamide sodium, 10%
Ointment with Neomycin, 0.25%

in blepharitis,
conjunctivitis,
episcleritis,
keratitis,
meibomitis
and other
external eye
conditions

- prednisolone effectively checks inflammation and allergy
- sulfacetamide sodium, with its wide-spectrum antibacterial range, controls infections caused by common eye pathogens
- addition of neomycin sulfate to prednisolone and sulfacetamide sodium in METIMYD Ointment broadens the antibacterial spectrum; the ointment also assures sustained therapeutic action during the night

SCHERING CORPORATION • BLOOMFIELD, NEW JERSEY *Schering*

MM-J-178

Provides therapeutic quantities of all known hematinic factors

Potent 'Trinsicon' offers complete and convenient anemia therapy plus maximum absorption and tolerance. Just two Pulvules 'Trinsicon' daily produce a standard response in the average uncomplicated case of pernicious anemia (and related megaloblastic anemias) and provide at least an average dose of iron for hypochromic anemias, including nutritional deficiency types. The intrinsic factor in the 'Trinsicon' formula enhances (does not inhibit) vitamin B_{12} absorption.

Available in bottles of 60 and 500 at pharmacies everywhere.

*'Trinsicon' (Hematinic Concentrate with Intrinsic Factor, Lilly)

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U.S.A.

The Virginia
MEDICAL
MONTHLY

September, 1958
Vol. 85, No. 9
Whole No. 1276

Guest Editorial....

"Cancer of the Head and Neck—A Plea For Its Progressive Management"

"THOUGH SIGNAL ADVANCES have been made recently in many surgical problems, the treatment of head and neck cancer, it would seem, has neither received the attention nor kept the pace of progress in other fields. These unhappy cases are often regarded as specters in the clinic. The operative treatment is hampered by tradition and conventionality, and the tragic ending of so large a proportion of these cases has held back lay and even professional confidence."[1]

These well-chosen words, from the pen of one of the fathers of head and neck surgery—George Crile, Senior—still apply today in many areas of our land. When written over fifty years ago, they indicated a nation-wide situation. Following his masterful systematization of the surgical treatment of squamous carcinomas of the oropharynx, irradiation entered the scene and the operative management of such lesions was relegated to obscurity. However, the inability of x-ray to control cervical metastases and the complications of surgery following unsuccessful irradiation resulted in a rebirth of surgery in certain medical centers.

With the advent of blood transfusions, antibiotics, and modern anesthesiology, tremendous strides have been made of late in the handling of these neoplasms arising in areas where a veritable cross-road of specialties exists. Perhaps this latter phenomenon of limiting specialization has been the most recent deterrent to progress in certain geographical locations, resulting in problems not unlike those faced by Crile. The general surgeon, the plastic surgeon, and the otolaryngologist have each carried forward the operative fight against cancer in the head and neck as far as their training has permitted. Obviously, the lack of complete management by one specialty and the absence of one over-all plan often leads to a hodge-podge of methods and partial procedures which even today fail to avert the "tragic ending" described by Crile.

Primary squamus carcinomas of the oro-laryngo-pharynx are often cured with modern irradiation methods and this modality of treatment is, in some instances, the treatment of choice, but the surgeon must be prepared to extirpate such lesions when irradiation fails and to radically excise metastases as soon as they appear. This same irradiation method is frequently utilized as "a way out" by the surgeon unfamiliar with

radical operative technics. Thus, the radiotherapist is often pitted against lesions, amenable to radical combined procedures, but impossible to control with external irradiation alone.

The term "mutilating surgery" and "unnecessarily radical operations" are often used in rebuttal when systematized operative methods of therapy are suggested. The facts that the will to live in spite of deformities is ever present in those afflicted with head and neck cancer and that modern surgical technics are aimed at ablation of cancer as well as restoration of reasonably normal function makes these pessimistic arguments ridiculous both to the patient and the surgeon trained in this field. Obviously, attempted resections of lesions which have become incurable by involvement of the base of the skull or by spread beyond the scope of surgery may well be criticized by the lay public and physicians generally.

Recent progress in head and neck surgery has consisted of the development of technics of earlier diagnosis, more extensive combined procedures and hitherto unknown reconstructive modalities, and exacting methods of post-operative care. Aspiration biopsy, a successful diagnostic tool of long standing, has now come into its own and progressive pathologists are using needle biopsy material for definitive diagnosis in more and more medical centers. This diagnostic method has all but replaced excision node biopsy of the neck, a procedure which often contaminates the field for radical dissection and makes subsequent operative management difficult. Mirror examination of the laryngo-pharynx has become a routine procedure in the examination of all patients with tumors in this region. Single-stage bilateral neck dissections and skin graft replacements of mucosal defects are being employed with increasing frequency. Modern systemic supportive measures and detailed wound care plus the increasing knowledge of laryngo-tracheal and pulmonary physiology have not only prevented the serious post-operative complications of the past but have allowed surgeons to carry out newer and more extensive procedures with comparative safety.

These "signal advances" have remained for a great part in the very medical centers where they were developed. "Unhappy cases" and "tragic results" still populate our land and will continue to do so unless the many difficulties outlined are remedied.

The only real solution to this situation lies in surgical training aimed at complete management of lesions crossing the borders of specialization and including the teaching of the natural history of cancer and its diagnosis and the basic concepts of irradiation therapy. By these means alone will confidence be built up in the lay and professional minds regarding the radical philosophy of treatment in cancers of the head and neck. By such means, also, will the prophetic words of Crile, one of the greatest surgeons of the modern era, be rightfully answered.

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1. Crile, G.: "Excision of Cancer of the Head and Neck". J.A.M.A. 47: 1780-1786, 1906.

William R. Nelson, M.D.

Clinical Experiences with the Anticoagulant Warfarin Sodium ("Coumadin Sodium")

RENO R. PORTER, M.D.
DAVID RICHARDSON, M.D.
H. PAGE MAUCK, Jr., M.D.
Richmond, Virginia

ANTICOAGULANT THERAPY has been used extensively over the past 10 to 15 years for the treatment of a variety of thrombo-embolic disorders. Various anticoagulant agents have been used, none of them entirely satisfactory. Dicumarol, the most popular one, cannot be given parenterally, has a long latent period before effects become manifest and is unpredictable at times. Heparin, another popular agent, is expensive and can be given only by the parenteral route. Ethyl biscoumacetate ("Tromexan") acts promptly, but is short in action, the dose is unpredictable and control is difficult to maintain[1]. Phenylindandione ("Hedulin") has a long latent period and has induced toxic side reactions other than hemorrhage[2].

A more recently introduced anticoagulant agent is Warfarin ("Coumadin") Sodium, a synthetic hypothrombinemia-inducing agent developed by Link and his associates[3]. It belongs to the coumarin group of drugs and has the chemical name 3-(a-phenyl-b-acetylethyl)-4-hydroxy-coumarin. The generic name is Warfarin. The sodium salt of this preparation is readily water soluble and is suitable for oral or intravenous use. It is marketed under the brand name of "Coumadin Sodium".* Clinical studies on this drug have been reported by Shapiro[4,5], Wolff and his associates[6], Clatanoff and his associates[7,8], Pollock[1,9], and Nicholson and Leavitt[10]. All of these reports have indicated that Warfarin Sodium is an effective hypoprothrombinemia-inducing agent by either the oral or intravenous route. It has a fairly rapid onset of action with therapeutic levels of prothrombin activity attained in 18-30 hours, about the same whether given orally or intravenously. The dose is essentially the same for either route, indicating complete absorption when given orally. All reports emphasize the predictability of dosage and the ease with which a smooth maintenance is accomplished. There have been no reported side effects, other than bleeding from excessive dosage, which is merely an expression of its pharmacological action. This has been shown to be rapidly and effectively counteracted by Vitamin K_1. The suggested initial dose is 1 mgm. per kilogram body weight, but Pollock[1] found no direct correlation between body weight and the size of the initial or maintenance dose.

The original oral preparations were made available in 25 mgm. quarter-scored tablets, but more recently 10 mgm. scored tablets have become available. Hence, some of the data presented have dosages in multiples of 6.25 mgms., while other data have dosages in multiples of 5 mgms.

Our experience with Warfarin ("Coumadin") Sodium consists of its use in 80 patients treated over the past two years at the McGuire Veterans Administration Hospital and the Medical College of Virginia Hospitals. In five patients, the drug was used on two occasions, making a total of 85 instances of Coumadin therapy. This treatment was carried out for a variety of thrombo-embolic disorders as shown in Table I. Table II indicates the various

TABLE I

CONDITIONS TREATED WITH COUMADIN		
Coronary Disease		66
Acute Myocardial Infarction	52	
"Intermediate Coronary Syndrome"	14	
Thrombophlebitis		8
Without Embolism	4	
With Embolism	4	
Auricular Fibrillation with Embolism		7
Cerebral Thombosis		2
Aortic Thrombosis		1
"Myocarditis" (Prophylactic)		1
TOTAL		85

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*Endo Products, Inc., Richmond Hill, New York.

TABLE II

METHODS OF ADMINISTRATION

Initial Anticoagulation			73
Coumadin alone		43	
Orally	38		
Intravenously	5		
Coumadin and Heparin		30	
Continuation of Anticoagulation			12
Prior control satisfactory		8	
Prior control unsatisfactory		4	

methods by which Coumadin was used. The concomitant use of Heparin in initial anticoagulation was based on the assumption that, if anticoagulation is of value, rapid anticoagulation (within a few hours) may be desirable in certain cases. Since there is an 18-24 hour lag between the administration of Coumadin and the onset of therapeutic effects, Heparin will achieve some measure of anticoagulation during this latent period.

The hypoprothrombinemic effect of Coumadin was measured by the Quick one-stage method and reported as per cent prothrombin activity. We consider the therapeutic range to be between 25% and 15%, which corresponds to a time of approximately 20 to 30 seconds using a control of 11-13 seconds.

It should be emphasized that this particular presentation is not concerned with the pros and cons of anticoagulant therapy, nor with the therapeutic results of such therapy. We are merely presenting the data on Coumadin as an anticoagulant agent, apart from any discussion of the indications for its use or the ultimate benefit to the patient.

We found considerable variation in the sensitivity of patients to the hypoprothrombinemia effects of the initial ("priming") dose of Coumadin. Some patients were quite sensitive, while a few were quite resistant. The priming dose varied from 25 to 75 mgms. as single doses, and 50 to 100 mgms. as double doses orally, and from 50 to 60 mgms. as single doses intravenously. There was little correlation between the dose and the patient's weight and the rapidity or degree of therapeutic response. As a matter of fact, there were instances in patients of approximately the same size, where doses of 75 mgms. just barely achieved therapeutic responses, while doses of 50 mgms. resulted in prothrombin activity below therapeutic levels.

Figure 1 is a graph of the initial anticoagulant response of six patients to a single dose of 60 mgms. of Coumadin orally. The weight of these patients varied from 63 to 85 kilograms, with no distinct individual correlation of body weight to the therapeutic response. Figure 2 illustrates the initial anti-

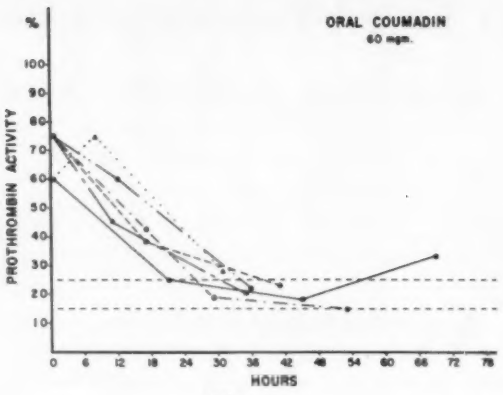

Figure 1

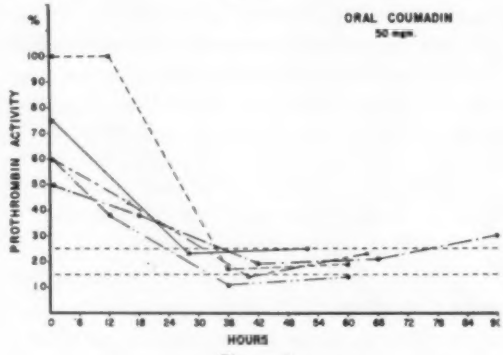

Figure 2

coagulant response of five patients to a single 50 mgm. dose of Coumadin orally. The weight in these patients varied from 42 to 80 kilograms. Again, there was no individual correlation between weight and response, although as a group the average weight was less and the response tended to be lower than the group receiving the 60 mgm. dose. Figure 3 illustrates the anticcagulant response in four patients

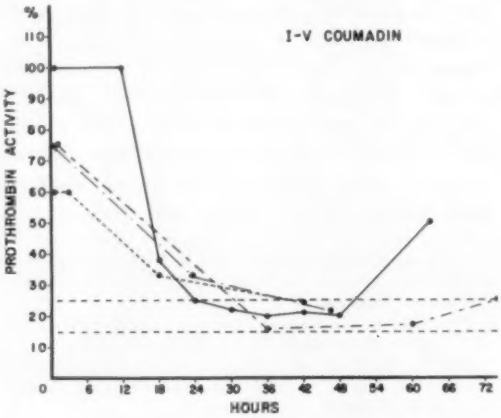

Figure 3

receiving a single intravenous dose of Coumadin. The dose varied from 45 to 65 mgms. and the patients' weights varied from 62 to 100 kilograms. As with oral administration, there was no close correlation between the patients' weights and dose with the response. The dose and response intravenously were about comparable to those of oral administration. This lack of correlation between dosage and weight was found by Pollock[1]. From a practical point, we do not believe that the initial dose needs to be related precisely to body weight, as has been advocated. This is of some importance because many of these patients are quite ill and it may be impractical to weigh them.

In some instances a double priming dose of Coumadin was given. By this method, an initial dose of 50 to 75 mgms. was given on the first day and a subsequent dose (10 to 25 mgms.) given the second day. This second dose was based to a large extent on the level of prothrombin activity determined on that day. This method did not achieve therapeutic levels any sooner than did a single priming dose, as shown in Figure 4 and, for the most

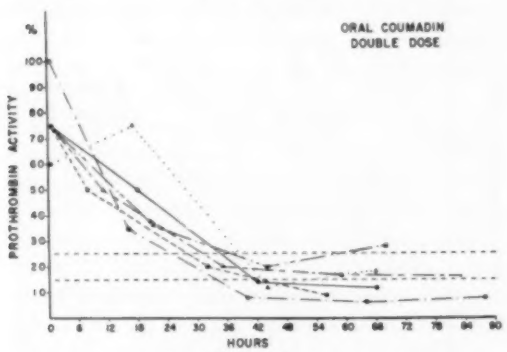

Figure 4

part, produced hypoprothrombinemia levels below the therapeutic range. On the whole, this method would appear to be an undesirable one. The fallacy in this method is that reliance is placed on the level of prothrombin activity determined the second day as an indication of the patient's sensitivity to the drug. Many of these determinations were made within the 12 to 18 hour period following initial administration of the drug, and in this period of time, as shown in Figures 1 to 4, there may be little if any hypoprothrombinemic effect. The determination of prothrombin activity during this period may give little indication of the patient's sensitivity to the drug or the ultimate anticoagulant effect of the initial dose. After this period, there may be a rapid and pronounced effect and this, combined with the effects of the second dose, can produce dangerously low levels of prothrombin activity the third and even the fourth day. While there were no instances where the low levels of prothrombin activity from double priming doses alone caused obvious bleeding, they did give rise to some concern. In some of these situations, it was deemed advisable to administer Vitamin K_1 as a precautionary measure and this served to retard or hamper the continuation of effective anticoagulation, particularly if large doses were given intravenously. Smaller doses (5 to 10 mgms.) of Vitamin K_1 given orally were found to raise the level of prothrombin activity within a few hours to therapeutic range without seriously altering the course of anticoagulant therapy.

While this discussion is not concerned primarily with Heparin, some comments should be made as to its effect on prothrombin activity and what influence this should have on the initial Coumadin dose. Heparin was administered concomitantly with Coumadin in 30 instances for the reasons given. It was administered in divided doses intravenously and intramuscularly prior to and for the first several days of Coumadin administration. The dose varied from 50 to 200 mgms. every 6 to 12 hours. In order to determine the influence of Heparin on prothrombin activity, we have reviewed cases where Heparin was given alone or for a day or two prior to other anticoagulants. From the data accumulated, it would appear that Heparin in doses of 100 mgms. intramuscularly twice daily had no effect on prothrombin activity as measured by the Quick method, while exerting an influence on clotting time that appeared to be cumulative. Doses of 100 mgms. three times daily intramuscularly had variable effects, but never of significant degree. Larger doses (400 mgms. or more daily) intramuscularly significantly depressed the prothrombin activity (below 50%), as did smaller doses (200 mgms. daily) given intravenously, particularly if continued for more than 24 hours. Hence, these latter doses necessitated a reduced initial dose of oral anticoagulant.

Our experience confirms the findings of previously reported series as to the fairly rapid and consistent hypoprothrombinemia-effect of Coumadin as measured by the Quick one-stage method. Within 12 hours there is moderate effect on prothrombin activity in some cases but, in many cases, little if any depression of the prothrombin activity has occurred at this time and even as long as 18 hours in a few. Following this initial latent period, there is a rapid

decline in prothrombin activity, with therapeutic levels attained in 24 to 36 hours (second 24 hour period) after administration. Within the dose range of 50 to 75 mgms., there was little difference in the achievement of a therapeutic effect in this 24 to 36 hour period, regardless of the patients' weights.

The persistence of action varies. In most cases where the effects of a single dose was studied, the prothrombin activity remained within the therapeutic range for 24 to 48 hours and then rose rather rapidly. In a few cases, the action persisted less than 24 hours, generally in those patients who were resistant to the drug. In some cases, the prothrombin activity dropped lower during the third 24 hours period, particularly if a double priming dose was given. In an occasional case, the depression of prothrombin activity persisted for four or five days. There were no essential differences in the time of onset of action, degree of prothrombin depression and the persistence of effect between the intravenous and oral routes. While the intravenous route is no more rapid than the oral route, it is most useful to have a drug that can be given intravenously in doses comparable to oral administration, particularly in situations where patients cannot take oral medications.

There were only four instances out of 73 initial anticoagulations where therapeutic levels were not attained in the second 24 hour period after Coumadin administration (Table III). In three of these

TABLE III

FAILURE TO REACH THERAPEUTIC LEVELS IN SECOND 24 HOUR PERIOD

	Wt.	Dosage	Prothrombin Activity
1.	82 K	62 mgm. orally	60%
2.	61 K	75 mgm. orally	30%
3.	86 K	50 mgm. (double dose) orally	28%
4.	100 K	50 mgm. I-V	27%

cases, levels of 30% or below were attained, which is considered to be within the therapeutic range by some authorities. These failures can be attributed to an inadequate initial dose, two of which could not have been predicted. One patient was unusually resistant to the effect of Coumadin.

These results are in striking contrast to the results obtained with Dicumarol, the more commonly used anticoagulant. In spite of the fact that considerable experience has been accumulated with Dicumarol, it is rare, even now, for therapeutic levels of prothrombin activity to be attained until the third or fourth day after administration and frequently not until the sixth or seventh day. This is illustrated by a patient (Figure 5), who was anticoagulated with Dicumarol in 1952 and with Coumadin in 1957. The

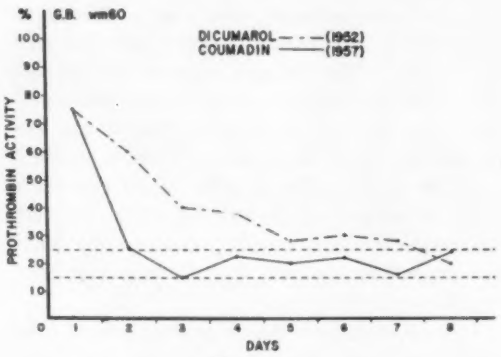

Figure 5

contrast is all the more striking when it is considered that we had much more experience and, therefore, should have had much greater faculty in using Dicumarol in 1952 than Coumadin in 1957. Figure 6 is another example of the apparent advantages of

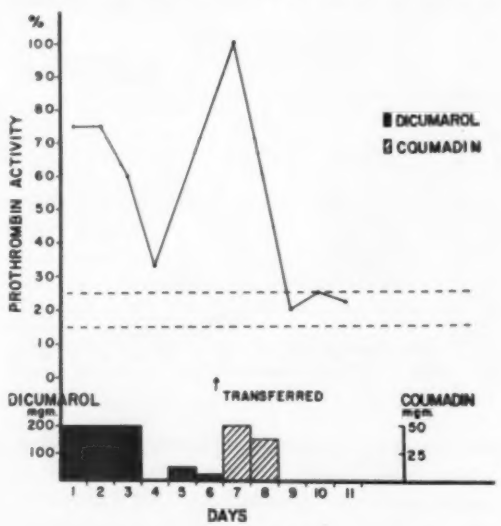

Figure 6

Coumadin over Dicumarol. In this instance, anticoagulation was attempted, using Dicumarol in doses of 200 mgms. daily for three days, but without achieving a therapeutic level of prothrombin activity. On transfer the seventh day, the prothrombin activity was back to 100%. In view of the apparent resistance to anticoagulant drugs, the patient was given a double priming dose of Coumadin (total 87.5 mgms.), with prompt reduction in prothrombin activity to therapeutic levels.

Excessive hypoprothrombinemia (prothrombin activity 10% or less) on initial anticoagulation occurred in 15 instances (Table IV). This was more

TABLE IV

PROTHROMBIN ACTIVITY 10% OR BELOW ON INITIAL ANTICOAGULATION

Single "Priming" Dose (75 mgm.)	1
Single "Priming" Dose (62.5 to 75 mgm.) plus Heparin	2
Double "Priming" Dose (55 to 93.5 mgm.)	8
Double "Priming" Dose (56 to 70 mgm.) plus Heparin	4

likely to occur when a double priming dose of Coumadin was used, and particularly when Heparin was given concomitantly. In most instances, the actual doses were not unusually large by average standards, and the excessive response represents instances of hypersensitivity to the drug. This hypersensitivity could have been determined had only a single priming dose been given, and the prothrombin activity the second morning after administration of the initial dose used as the index of response and the basis of subsequent doses. In these particular instances, the second dose was given on the basis of the level of prothrombin activity determined on the first morning after the initial dose had been given. As noted previously, this may be an unreliable index of the patient's sensitivity and the ultimate response to the initial dose.

In spite of achieving excessively low levels of hypoprothrombinemia on a number of occasions, there were only two instances of significant bleeding related to Coumadin administration. One was a thin, chronically ill, 58 year old white male with rheumatic heart disease who received 50 mgms. Coumadin orally and 150 mgms. of Heparin intramuscularly the first day, and 6.25 mgms. Coumadin and 100 mgms. Heparin the second day. The prothrombin activity was 10% on the third day and 7.5% on the fourth day. On this day he vomited dark blood and passed several tarry stools. He was treated with 50 mgms. of Vitamin K_1 ("Mephyton") intravenously and his prothrombin activity rose to 30% in about 4 hours. Subsequently he was given blood transfusions and an additional 50 mgms. of Vitamin K_1. After another 24 hours, there was no further evidence of bleeding. In this case, the priming dose of Coumadin was excessive and the primary cause of the bleeding, which occurred from a gastric ulcer (proved subsequently). Relatively small doses of Heparin were given and this was considered to be insignificant as a factor. The second case was a 36 year old white male, weighing 65 K., who was being treated for acute myocardial infarction. On the first day the control prothrombin activity was 75% and he received 62.5 mgms. of Coumadin orally and 150 mgms. of Heparin intravenously. On the second day he received 150 mgms. of Heparin intravenously, but no Coumadin. The prothrombin activity was 7% on the third day and 5.5% on the fourth day. On the fifth day, the prothrombin activity was still 5.5% and the patient began to notice a painful swelling on the lateral aspect of the left thigh which soon became ecchymotic. He was given 50 mgms. of Vitamin K_1 ("Mephyton") intravenously and within four hours the prothrombin activity had risen to 38%. The ecchymotic area continued to spread and remained painful for the next 24 hours, after which the pain and swelling gradually subsided. The prothrombin activity gradually rose over the next four days to 60% and, after a few more days, anticoagulation was resumed. Although this patient had received a moderate amount of Heparin intravenously, it is not considered that this contributed to the persistently excessive prothrombinemia and bleeding, since this occurred well over 24 hours after the last dose of Heparin. This was an instance of hypersensitivity to a single dose of Coumadin which was less than 1 mgm. per kilogram. It should have been suspected on the basis of the low prothrombin activity (7%) on the third day and definitely established by the even lower determination (5.5%) on the fourth day, with no Coumadin since the initial dose and no Heparin for over 24 hours. It is probable that Vitamin K_1 in 5 or 10 mgms. orally on the third or fourth day might have raised the prothrombin activity and prevented the bleeding.

Maintenance therapy was found to be quite smooth and easy in the great majority of cases, as has been reported by previous authors. The maintenance dose can be established quickly and remains fairly constant from day to day. We found that giving smaller doses daily was more satisfactory than giving larger doses intermittently. In general, the maintenance dose varied from 5 to 15 mgms. daily with an average of about 10 mgms. Some sensitive patients required as little as 5 mgms. every 2 to 3 days. Figure 7 is an example of the satisfactory maintenance after initial and prompt anticoagulation with Coumadin. A daily dose of 10 mgms. maintained a fairly constant level of prothrombin activity for a period of nearly 3 weeks. This case showed a decreased requirement for the drug (increased sensitivity) during the third week. Other cases have shown an increased requirement (decreased sensi-

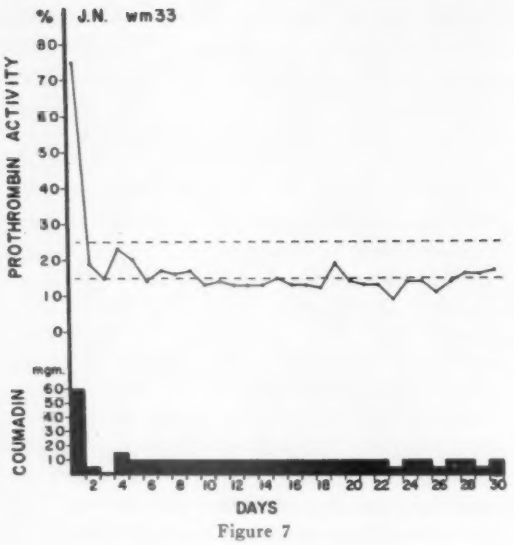

Figure 7

tivity) during this period. This phenomenon coincides with beginning ambulation in most instances, but whether it is related to this or is an indication of some intrinsic alteration in the coagulation mechanism from other causes is unknown and needs further study. Figure 8 is an example of a shift

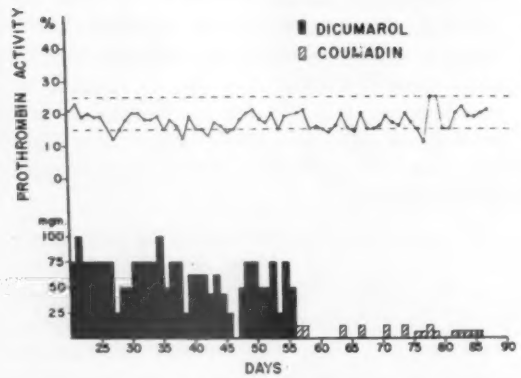

Figure 8

in maintenance therapy from Dicumarol to Coumadin. The patient was being satisfactorily maintained on Dicumarol in doses of 25 and 75 mgms. daily for the most part. On shifting over to Coumadin, the satisfactory maintenance was continued, using intermittent doses of 12.5 mgms. initially and later a daily dose of 6.25 mgms. It seems probable that this latter dose given daily throughout this period would have achieved a smoother maintenance as indicated by the results obtained during the last five days of therapy.

From a review of our experiences with Coumadin, the following recommendations regarding the use of this drug seem appropriate. The sensitivity of patients to Coumadin varies from individual to individual, but is fairly constant in the same patient. The initial dose is not correlated precisely with body weight. It would appear that a standard dose of 50 to 60 mgms. will be suitable in the vast majority of patients weighing between 60 and 80 kilograms and having control prothrombin activities of from 60% to 100%. This can be increased to 75 mgms. if the patient is unusually heavy or obese. The dose should be reduced for patients weighing less than 60 kilograms, if the control prothrombin time is 50% or less, if Heparin in significant amounts (more than 300 mgms. intramuscularly or 150 mgms. intravenously daily) is given concomitantly, or the patient is debilitated or cachectic. This reduced dosage will vary from 50 down to 25 mgms. depending upon these particular conditions. A double priming dose is not necessary and the next administration of the drug should wait until the *second* day *following* the initial priming dose. The prothrombin activity determined on the morning of this day will represent about the maximum effect of the initial dose, depending somewhat on the time of day the first dose was given, but certainly if it is more than 36 hours later. In nearly all cases the prothrombin activity will be within the therapeutic range at this time and maintenance therapy can be instituted. The response to the initial dose will be an indication of patients' sensitivity to Coumadin and will serve as a guide for subsequent maintenance therapy. In general, the dose schedule given in Table V will

TABLE V

MAINTENANCE THERAPY

Prothrombin Activity	Dose of Coumadin
Below 10%	0
10-15%	5 mgm.
15-20%	10 mgm.
20-25%	15 mgm.
20-30%	20 mgm.
30-40%	25 mgm.

maintain effective anticoagulation. Some further adjustments may be necessary for the next day or two, always keeping in mind that, with the establishment of anticoagulation, the prothrombin activity reflects the dose given the day before (if given prior to 12 hours). After two or three days of adjustment, a smooth maintenance is usually achieved on relatively constant dosage. Subsequent maintenance doses will depend upon the therapeutic response, but will

generally be 5 to 10 mgms. daily. In our experience, small daily doses achieve smoother control than intermittent larger doses.

In the average hospital, it is impractical to obtain repeated emergency tests of prothrombin activity during the initiating phase of anticoagulant therapy, so that after the first control determination, subsequent determinations are made in the morning as a usual routine. Actually, this routine is quite satisfactory when using Coumadin. The drug is given the first day after a control prothrombin has been obtained. No further drug need be given until the third day, at which time the morning determination of prothrombin activity will indicate the dose required for maintenance. Since a predictable and rather constant maintenance dose achieves a relatively stable level of prothrombin activity, it would appear that, once the maintenance dose has been established, less frequent determinations of prothrombin activity will be needed. Rather than daily prothrombin determinations, as is the usual routine, it should be possible to maintain satisfactory control with determinations made every two or even three days. This would represent a saving in laboratory expense and much less discomfort for the patient.

CONCLUSIONS

Our experience in 80 patients given Warfarin ("Coumadin") Sodium in 85 instances as an anticoagulant agent is in essential agreement with that previously reported by others. This drug is rapidly effective by oral or intravenous routes as measured by the Quick one-stage method, with therapeutic levels attained in 24 to 36 hours. The intravenous route is comparable to the oral route in dosage and rapidity of therapeutic action and, therefore, is of no particular advantage in these respects. However, it is useful to have an intravenous preparation available, should the need for it arise. There is considerable variation in the sensitivity of patients to the hypoprothrombinemia-inducing effects of Coumadin as measured by the Quick one-stage method which does not correlate precisely with body weight. Actually a standard dose appears to be a suitable one for the average patient, after which subsequent doses can be fairly well predicted from the response to this initial dose. The predictability of dosage in the same individual permits an easy and smooth maintenance control of prothrombin activity. Coumadin is free of toxic side reactions, the only adverse effects being its pharmacological action leading to excessive hypoprothrombinemia from overdosage. This latter is readily counteracted by Vitamin K_1 For these various reasons, it appears to be superior to all other hypoprothrombinemia-inducing agents currently available and, therefore, the drug of choice for anticoagulant therapy in thrombo-embolic disorders.

The dose of 1 mgm. per kilogram body weight, as advocated in the literature, is unreliable and is excessive in most instances. In addition, dosage based on patient's body weight seems impractical, since there is only a very gross correlation with body weight, and it is not always feasible to obtain a patient's weight. A suggested dose schedule, based on our experience, has been presented.

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Medical Uses of Tobacco, Past and Present

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IT HAS BEEN REMARKED that the first introduction of tobacco into the several countries of the world has always been in the guise of a medicine. One account (Med. Record 25: 684, 1884) of the origin of the use of tobacco as a medicine has it that "Sir John Nicot, Ambassador of the King of England to Portugal from 1559 to 1561, received a present of this then strange plant from Florida. He planted it in his garden, where it grew abundantly, and finally heard that a man had been cured of a *noli me tangere* [rodent ulcer] on his cheek, near unto his nose, and which already had begun to take root at the gristles of his nose, by applying tobacco-juice and the bruised herb. From that time forward this plant began to be famous throughout all Portugal for ulcers of the leg, ringworm, and scrofula. It was finally sent to France to help Lady Montigny, who suffered with an ulcer bred in her breast, and Countess of Ruffe to heal her face. The Lord of Jarnac caused the nicotine to be distilled and drank, mingled with water of Euphrasia, othewise called eyebright, by one that was short-breathed or asthmatic, and it cured him. When the juice was absorbed it sometimes made the patient exceedingly uncomfortable and faint." There is a light note of English patriotic zeal in this otherwise delightfully graphic account, for Jean (John) Nicot was actually Ambassador of the King of France. Incidentally, it is in his honor that the principle alkaloid of tobacco, nicotine, was named.

Many of the early synonyms for *Nicotiana* bear witness to the supposed therapeutic virtues of the plant: *Herba Panacea; Herbe propre à tous maux; Heilkraut.* The pharmacopoeias, official or unofficial, invariably included *Tabacum* (indeed, as late as the United States Pharmacopoeia of 1890), although by the 18th Century it had already been noted that tobacco was even then used more for amusement than for its medicinal virtues (Alston, 1770); and by the early 19th Century, the potential dangers of tobacco as a drug were well known (see, e. g. Albers, 1851). The interesting history of the use of tobacco in early medicine has been recounted by many writers (Buhler, 1937; Mullett, 1940; Massengill, 1943; B. L. Gordon, 1944; E. Coleman, 1947; among others), and the subject of the therapeutic use of tobacco has been periodically reviewed (Alston, 1770; Merat, 1821; Berutti, 1850; Stillé, 1874; Gués, 1883; E. Laurent, 1893; Jaucent, 1900; G. Petit, 1907; Gutierrez Muro, 1934; Mamlock, 1949; Uher, 1953). Nichols (1942) traced tobacco through the period when it was hailed as a remedy for all illness (*Herba Panacea*) to the modern concept in which it is no longer regarded, officially at least, as having therapeutic virtues. In this review, no attempt has been made to re-cover the earliest history of tobacco as a drug. In general, in this and in our other reviews of various aspects of tobacco, we have taken the date of the discovery of nicotine by Posselt & Reimann, 1828, as the dividing line between what may be termed the "ancient" and the "modern" or contemporary history of tobacco, at least for pharmacological and clinical purposes. Of course, such a division is not meant to be absolute, either in fact or in our treatment of the subject; but it is logical and convenient.

Though tobacco is no longer an *official* drug, it still is, as judged from the case reports of therapeutic overdosage which appear from time to time in the literature, not infrequently used as a folk-medicine—as, indeed, are virtually all herbs and plants. It is a curious fact in the history of therapeutics that plants (or plant products) which have once had a place in orthodox medicine, and which then, after having been discarded by "scientific medicine" of a later day, have continued to be used in folk-medicine, still later when their active ingredient has been discovered and pharmacologically investigated, become once more respectable members of the therapeutic family. This has happened, for example, with such diverse drugs as squill and licorice; and tobacco has also undergone a similar, if comparatively minor therapeutic rehabilitation, for

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both tobacco and nicotine (as such or by way of smoking) have been more or less rationally employed for their pharmacological effects by certain modern clinicians (see below).

Concerning the therapeutic dose of tobacco, the reader is referred to any of the older pharmacopoeias. Rather anachronistically, Gutierrez Muro (1934) has given the *internal* dose of tobacco as 0.05-0.10 gm. in the form of powder, and 0.5-1% in the form of an infusion; externally, a 1% decoction was recommended for lotions. Macht (1927), consulted concerning an order made by a physician calling for 25-30 doses of 2 mg. each of nicotine alkaloid in solution for intramuscular injection in a patient, took the occasion to point out to the medical profession in general the toxic potency of nicotine and the dangers attending its use.

CASE REPORTS ILLUSTRATING THE MEDICAL USES OF TOBACCO

[*Note:* This therapeutic index is conventionally and arbitrarily listed by body systems, with certain obvious exceptions. For convenience, the order conforms to that followed in our comprehensive Monograph (now in preparation) on the biological effects of tobacco and smoking, experimental and clinical.]

DISEASES DUE TO CHEMICAL AGENTS: *Strychnine Poisoning.* Haskell (1859) successfully treated a case of strychnine poisoning with tobacco smoke *per rectum.* Tobacco infusion was used with success in cases of strychnine poisoning reported by O'Reilly (1859, 1860), Haughton (1862), Chevers (1865), and B. W. Richardson (1867); however, J. J. Reese (1871) stated that such favorable results of strychnine-nicotine antagonism reported on man were not unequivocal.

In a case communicated to Haughton (1862) of a man poisoned by strychnine who had reached the stage of violent convulsions and opisthotonos, nicotine was administered in drop doses with whiskey-punch every half hour. After the second dose, the paroxysms were less violent, and the muscles of the abdomen became softer. When the patient had taken 4 doses, he was much better; the muscles were relaxed. Recovery occurred gradually.

Snake bite, etc. W. D. Johnson (1860a, b) used tobacco both externally and internally combined with free alcoholic stimulation as antidotes to the bites of poisonous reptiles and insects. The tobacco produced nausea and vomiting in every case in which it was resorted to. The author considered the patient as safe when nauseated or intoxicated, and proposed the internal administration of alcoholic stimulants and the local application of tobacco, either as cataplasm, decoction, or infusion, as the best treatment. Alcohol and tobacco were each effective when administered in time, and both together were more prompt than either separately. The local application of the tobacco greatly relieved the pain consequent of the swelling, and tended to arrest the swelling itself.

NERVOUS SYSTEM: *Apoplexy.* Tobacco has been used in the treatment of apoplexy (Sigmond, 1938b).

Epilepsy. Sigmond (1838b) stated that tobacco was used in the treatment of epilepsy.

Hysteria. J. H. Thompson (1842) reported that a 22-year-old girl was brought out of a hysterical convulsion by application of a moist leaf of tobacco applied to the epigastric region. In 15 minutes, the hysterical symptoms had all disappeared; the patient felt sick, and continued so for some time, but did not vomit. Later attacks were arrested in the same way.

Analgesia. Snuff plasters applied locally to such areas as the toes, side of the body, face, and knee, were successfully used by Somervail (1838) for the relief of pain; symptoms (nausea, etc.) did not occur unless the cuticle were abraded. Following abrading of the skin to facilitate absorption, Chippendale (1845) applied by inunction an ointment of tobacco extract over the neuralgic area.

Hepburn (1879, 1880) stated that tobacco-smoke acted as a narcotic in toothache. A pea-sized plug of tobacco, inserted into the hollow of a painful tooth, resulted in poisoning (F. R. Chapman, 1880).

Tobacco Smoke as a Soporific. Weaks (1852-53) reported that a seven-day-old infant was given two tablespoons full of water impregnated with tobacco smoke to induce quietness through the night; unfortunately, fatal nicotine poisoning resulted. A case with a more favorable outcome was reported by Hervey (1869), who advised a non-smoker, long troubled with what appeared to be a pleurodynia attended with dull pain with consequent insomnia, to smoke a cigar or pipe before retiring; the effect of a few puffs was very marked, inducing a sweet and dreamless sleep.

Tic douloureux. According to Blanch (1845), infusions of tobacco were found to be inert in the treatment of *tic douloureux.*

Stammering. On the theory (attributed to Lytton) that stammering lips should put a pipe between them by way of improving the respiratory power, and possibly for the effect of the sedative on the coordina-

tion of the vocal apparatus, Cuthbert (1895) tried tobacco in these cases, and stated that the result was far from satisfactory.

Parkinsonism. Moll (1926) treated a series of 13 cases of typical post-encephalitic Parkinsonism of several months' standing with nicotine, 1/30 grain initially 3 times daily gradually increased to 1/10-1/5 grain for 2-3 weeks, or until symptoms of intolerance set in. Of the 13 cases, 9 showed an improvement after nicotine treatment, while 4 were unaffected. Permanent cures were not obtained, and Moll recommended that the treatment be repeated at frequent intervals of, say, two-three months. Nicotine had an undoubted action in reducing muscular rigidity, but had no effect on the tremors, and the persistency of tremors in some cases masked the improvement of the patient's stiffness.

Hemiballism. In the case of a 51-year-old male with the typical signs of hemiballism (hemichorea), the smoking of 1 or 2 cigarettes was said to have reduced both the amplitude and frequency of the involuntary movements (Grigoresco & Axente, 1931).

Miscellaneous. Rothman & Coon (1939) described a pharmacodynamic test of the skin based on the pilomotor action of nicotine (0.1-0.2 ml. of 1:1000 nicotine sulphate or picrate in physiological saline intradermally results in the appearance of "gooseflesh" during or immediately after the injection). Clinically, the nicotine test was first utilized to study the restoration of pilomotor function in pedicle skin grafts (Kredel & Phemister, Arch. Neurol. and Psychiat. 42: 403, 1939). The reaction can be used for testing and localizing disturbances of the sympathetic system in its peripheral neurones, as the histamine test is used for detecting disturbances of the sensory system. Nicotine is stable to the heat of sterilization in the dilutions used, and the dose is too small to give ill effects.

Diseases of the Skeletal Muscles: *Muscle Spasm.* Diver (1845) recommended an ointment containing nicotine to be applied externally to relieve muscle spasm and when antiphlogistic properties were desired.

Muscle Contracture. In a case reported by Ranney (1848), a young woman had developed a permanent contraction of the muscles originating on the right side of the pelvis, the foot being drawn up to the thigh. After trying various remedies, a tobacco enema was given, and relaxation followed. On the next day, there was some tendency for the muscles to contract, but a repetition of the tobacco treatment was speedily effective and complete recovery ensued.

Blood: *Hemostatic.* O'Neill (1879) reported the case of a woman with varicose veins who accidentally bruised her leg causing it to bleed profusely; to stop the bleeding, she applied a handful of chopped wet tobacco to the wound and covered it with a bandage. Severe non-fatal nicotine poisoning resulted.

Cardiovascular System: Stadelmann (1900) made observations on the effect of nicotine on a number of heart conditions, including myocarditis, bradycardia, tachycardia, and mitral insufficiency. He concluded that nicotine was not a valuable drug in the treatment of cardiac patients, despite its not insignificant effect on blood pressure; the incalculable and unpleasant side-actions of nicotine prevent its general use.

Hooper (1885) reported the case of a young man who had violent pain in his heart accompanied by violent beating; the attacks gradually increased in frequency and duration until the patient was having six attacks a day lasting one to one and a half minutes each. Hooper treated the patient unsuccessfully for 14 months with a variety of procedures, and at the end of this time the latter was in deplorable condition, entirely unfit for the duties of life, with his extremities becoming edematous and cyanosed. At this point, Hooper noticed in *The Lancet* an account of experiments by Rulliford on the action of nicotine on the ganglion of Remak, or the inhibitory nerve of the heart; and as a last resort, he advised his patient to start smoking tobacco. With his first pipe of tobacco, the blueness faded from the patient's extremities, and the edema appreciably subsided. At the end of two weeks' use of tobacco, the attacks ceased; the patient remained in perfect health, and "is now an active practitioner of medicine."

Nicotine in *homeopathic* doses was employed in angiospasm by Jaisoorya (1942, 1942-43). In a heavy smoker with Raynaud's disease, pregangrenous stage, immediate relief was brought about by three doses of nicotine in 200th centessimal dilution [i. e. a series of 200 dilutions, the first of which contains one part of the drug and 100 parts of diluent, the second one part of the first dilution and one hundred parts of diluent etc., so that probably only occasionally did a dose contain a molecule of nicotine!] In another patient, whose attacks were more frequent on smoking, nicotine in 30 centessimal dilution, six doses twice a day, caused great improvement. In the case of a heavy smoker with repeated anginoid attacks, the condition was completely relieved by treatment with tabaccum in 30th centessimal dilution following cessation of smoking.

RESPIRATORY SYSTEM: *Respiratory Stimulant.* The historical use of tobacco fumes as a respiratory stimulant has been interestingly described by H. E. Fisher (1944). In cases of apparent death, when other aid is not at hand, Hildenbrand (1801) advocated the use of tobacco leaves externally, first laying them on and then rubbing with them.

Pulmonary Disease. Montgomery (1895) considered that moderate tobacco smoking might possibly be beneficial in pulmonary disease, due to possible antiseptic action of the smoke, and its reflex vasoconstrictor action (through stimulation of afferent nerves in mouth, larynx, etc.) which might tend to relieve or prevent the chronic congestion present in chronic pulmonary affections. In this connection, the use of "antiseptic cigarettes" may be briefly mentioned. H. M. Jones (1887), for example, described an antiseptic cigarette of the following composition: tobacco, eucalyptus, and iodoform disguised with coffee; each cigarette contained one grain of the active ingredient; dose, half a cigarette three times a day. In such preparations, however, the cigarette is considered to be a vehicle for the administration of presumably more active antiseptic drugs.

Croup. Dr. Vanderburgh is credited by Godman (1828) with introducing the use of a plaster covered with dry Scotch snuff in the treatment of croup. Godman claimed that this procedure caused the symptoms of tracheal irritation and harsh crouping cough to cease, and produced profound sleep with gentle respiration; the treatment never caused vomiting, vertigo, or any other distressing symptoms. N. Chapman (1828) also described the successful use of tobacco to relax the laryngeal spasm in cynanche trachealis; he had the patient smoke a cigar.

Nasal Catarrh. According to an annotation in *The Lancet* (*1*: 406, 1913), there was some evidence that tobacco smoke was preventive of some forms of nasal catarrh.

Nasal Polyp. Townsend (1821) stated that the use of snuff has generally been supposed to be one of the many causes of polypus nasi. However, he himself recorded a case of polypi of alarming size appearing in both nostrils, which he treated with large quantities of Scotch snuff. The snuff was introduced into the nose in such amount that during the first few weeks it caused severe vomiting. The tumors began to recede, and in a few years every vestige of the disease vanished. He added that he had another patient who was rapidly improving from the same disease under the same treatment.

Hiccough. Higginbotham (1890) stated that he had cured several cases of very obstinant singultus by means of pills containing 1/40 grain nicotine. Slevin (1895) reported the case of a man of 78 who hiccoughed persistently for 12 days without intermission; he was then given a box of very pungent snuff, and during the night took several pinches which produced sneezing; and on the following day was fully recovered.

GENITOURINARY SYSTEM: *Dropsy.* In 1785, Fowler published his *Medical Reports of Effects of Tobacco With Regard to its Diuretic Quality;* in 79 cases of dropsy in which tobacco was given, there resulted 28 cures, and 32 were relieved. Sigmond (1838f) stated that tobacco taken internally was a very serviceable remedy for dropsy, but one which had fallen into disrepute. About this time, however, it was reported (W. A. G., 1840) that application of a moistened tobacco leaf over the epigastrium into dropsical patients was immediately followed by a profuse discharge of urine and the disappearance of dropsical symptoms. "On the whole" wrote Stillé as late as 1874, "it seems probable that tobacco might with advantage take the place of Digitalis in the treatment of many dropsies for which medicine is now prescribed."

Paresis of the Urinary Bladder. Pavessi (1853, 1854) reported a case of paralysis of the bladder in an elderly man which he treated by twice-daily instillations of solutions of nicotine. The bladder was said to have acquired a daily increased power of contraction, so that at the end of 15 days, the catheter was laid aside.

GASTROINTESTINAL SYSTEM: Back in the days when one of the most popular therapeutic measures was either a "purge" or a "vomit", tobacco had the distinction of fulfilling either purpose. Under "Oyl of Tobacco," Bate's Dispensary (1699) advised: "Anoint the pit of the stomach with gr. v or vi and the patient will presently vomit, but if you would move the body downwards, anoint about the navel therewith and the sick will presently fall a purging." In a somewhat more sophisticated age, Sigmond (1838c) regarded tobacco-infusion enemas as a therapeutic agent of very considerable importance, in which, however, one must be prepared for the violence of its action; precordial anxiety, vomiting, death-like paleness and cold sweat, as well as more distressing symptoms, and possible fatal termination. He noted that tobacco enemas have been used to stop hemorrhoidal bleeding, to dislodge obstructive material in the esophagus by vomiting; in ileus,

colic, obstipation, and strangulated hernia. A considerable number of case reports have appeared in the literature illustrating the dangers of tobacco enemas in these and other intestinal conditions, and writers before and after Sigmond have deplored the use of, or urged great caution in the employment of such dangerous remedies (e. g. Acta Helvetica, 1762; Copland, 1860).

Constipation. Vorwahl (1933) pointed out that Prof. Glasmer's treatment of habitual obstipation by carbon dioxide evolution in the intestine was not as new as it would appear: over 200 years ago, tobacco smoke, which contains large amounts of carbon monoxide and carbon dioxide was used for this purpose; and Vorwahl reproduced pictures of instruments used for producing and delivering the tobacco smoke into the rectum. Copland (1860) believed that introduction of tobacco smoke into the large bowel was safer and a more efficacious practice than the use of tobacco-infusion enemas. The use of such enemas in constipation has resulted in severe or fatal poisoning (Acta Helvetica, 1762; Grahl, 1830; among others), and in the case of a man who swallowed two tablespoonsful of tobacco to relieve constipation, characteristic nicotine poisoning resulted (van Valzah, 1876-77). O'Donovan (1858) successfully used tobacco enemas in three cases of constipation; the recommended dose was one-half to one dram of tobacco, depending on the patient, in 2-4 oz. of water. W. D. Jones (1891) recommended tobacco enema (one dram to a pint of boiling water) administered *ad nauseam* as one of the most efficient remedies of a palliative character available to the physician treating cases of fecal obstruction of the intestines, and he reported two cases in which tobacco was used with good effect.

In spite of the "time honored observation that many smokers are severely constipated" (Batterman, 1955), the "morning cigarette" is used by many other smokers to promote bowel movement. Having observed that smoking a cigarette increased intestinal peristalsis, Calatayud (1944) made therapeutic application of his results in a series of 100 patients, each of whom was asked to smoke a cigarette while fasting, and each of whom was followed closely for a period of 5 years. Patients were considered to be cured who recovered their intestinal habit and actually defecated daily and normally after having smoked one cigarette after fasting for a while. Included among the failures were the ones in whom the repugnance for tobacco made continuation impossible, and those in whom tobacco did not favorably modify their intestinal stasis. In summary, of 62 non-smokers treated, 49 were cured, with 13 failures; of 38 smokers treated, 26 were cured, with 12 failures. Thus, with 75% of his patients cured, Calatayud concluded that his method had practical value, being much more convenient, economical, effective, and inoffensive than many of the laxatives and purgatives used by chronically costive patients.

Intussusception. Haskell (1859) recommended the use of tobacco smoke *per rectum* in the treatment of this condition, and R. R. Ball (1886) described a case of intussusception which yielded to tobacco enemas. The enemas were given at hourly intervals for 12 hours, the enemas being infusions of one dram rising to two ounces of tobacco for each enema. The object was to cause relaxation of the whole muscular system, hoping thus to overcome the spasmodic muscular contraction of the invaginated bowel.

Hernia. The general muscular relaxation produced by tobacco was also used to make possible reduction of strangulated hernia. The tobacco might be used in the form of an enema (S. Jackson, 1839; O'Donovan, 1858; B. P. Reese, 1861), occasionally with fatal outcome (Paris & Fonblanque, 1823; among others) or as tobacco smoke *per rectum* (Haskell, 1859) or even by deglutition of tobacco smoke in susceptible patients (S. Jackson, 1839). Jensen (1938) has given an interesting historical account of the use of tobacco smoke administered rectally in the treatment of incarcerated hernia.

E. Mitchell (1850) related the case of a Negro who was laboring under a strangulated inguinal hernia of long continuance, attended by fecal vomiting. A warm bath and other methods having failed, and with a fatal result seemingly impending, Mitchell ordered as a last resort an enema of 1 dram of tobacco in a pint of water, and left the patient for the night. The next morning, to the physician's surprise, he found his patient walking about quite well, and on inquiry he learned that the patient had swallowed what had been intended to be given as an enema; that it had produced much prostration, accompanied by relaxation, during which the hernial tumor had been spontaneously and completely reduced.

Ileus. Ronzier-Joly wrote in 1857 that tobacco had been used in the treatment of ileus for more than two centuries. He too pointed out the great variability in the action of tobacco, and the need to use prudence in its administration; but he maintained that tobacco was very useful in this condition, and presented three case histories in which it had been

employed. Haskell (1859) and Copland (1860) preferred introduction of tobacco smoke into the large bowel to the use of tobacco enemas in this condition. Cameron (1886) reported two cases of ileus in which a tobacco poultice applied to the abdomen brought relief and subsequent cure; in both cases, the poultice stopped the pain and discomfort, and subsequent enemas, in one case, of tobacco infusion, brought about bowel movement. According to Torresi (1904), enteroclysms of warm tobacco infusion (up to 30 gm. of leaf per liter) administered through a long flexible sound gave good results in 5 out of 7 cases of paralytic ileus; the other two cases were *in extremis* at the time of attempt.

Rosenstein & Kohler (1928) devised a procedure for the injection of nicotine into the coeliac ganglion of man for the relief of intestinal paralysis. In 26 cases, doses of nicotine up to 10 mg. were used, although the usual dose was less than this; and in 17 of these, temporary relief, with consequent passage of stools was afforded. This use of nicotine was reserved for cases of paralytic ileus, since increased peristalsis in mechanical obstruction only aggravates the condition; and the authors felt their treatment represented a not insignificant advance in the therapy of intestinal paralysis. Noting that 2-3 mg. of nicotine injected into the right or left coeliac ganglion in rabbits, cats, and dogs were effective in the treatment of experimental paralytic ileus, Ghiron & Scandurra (1930) recommended a dose of 6 mg. in man, and stated that it was not necessary to reach the coeliac ganglion to obtain the desired effects; it sufficed to infiltrate posteriorly the periaortic cellular space. However, Ochsner, Gage & Cutting (1930) concluded from their experiments on dogs that nicotine when injected into the splanchnic area was probably of little or no value in the treatment of ileus. These authors thought it conceivable that the injection of nicotine directly into the semilunar ganglion might produce more pronounced effects than those obtained by diffusion, although diffusion was the only method clinically available and safe; furthermore, the injection of nicotine was open to serious objections in that it produced rapid and exaggerated increases in blood pressure.

Colic. Fowler (1785) reported observations on the use of clysters of tobacco in the treatment of colic; and the author who signed himself "Physician" (1813) administered an enema of the infusion of the tobacco in the proportion of 2 drams to 8 oz. of water in this condition. His patient died, whereupon he cautioned others against prescribing so large a dose, and suggested half a dram in 12 oz. of water, to be increased gradually if not effective.

Wertheim (1851) claimed beneficial effects on stomach and intestinal cramps with small doses of nicotine or coniine, i. e. one mg. distributed over 5-6 days' time. It may be suspected that this author was operating on homeopathic principles.

Miscellaneous Conditions, from Mouth to Anus. Tassinari (1891) concluded that tobacco smoke merited serious consideration in the hygiene of the mouth as a prophylactic measure against the diseases of the oral cavity which have a parasitic origin. Cavallaro (1910) agreed that, since in his experiments tobacco sterilized the saliva, instead of proscribing it, one should recommend its use in oral prophylaxis.

Audier (1950) treated 12 paradentosis patients with either a 4% tobacco-smoke condensate emulsion in gum arabic or a 4% paste. Clinically, distinct improvement was observed, but toxicity of the product prevented its general use. Ultimately, the author developed a product called Parex, made with nicotinic acid and nicotyrine as active ingredients. Toxicity tests showed high therapeutic ratio, and five case histories were presented to show its effectiveness in treatment of peridontal diseases. Audier noted that primitive tribes in South America cleaned their teeth and gums with tobacco products, and that among them scarcely any paradentosis occurs.

A boy suffering from intense pruritis ani was treated by his father with a tobacco infusion enema; severe non-fatal poisoning ensued (Fulpius, 1913).

Tobácco enemas have been used to stop hemorrhoidal bleeding (Sigmond, 1838c), and Wright (1846) reported the case of a man who was induced to sit over a chamber-pot containing half an ounce of tobacco together with some burning coals to ease himself of piles; in a few minutes, characteristic nicotine poisoning supervened.

The Use of Nicotine as a Vermifuge. It would appear that this use of tobacco was originally a therapeutic accident. In treating a sailor with an abdominal wound, Surgeon Turner (1762) procured a stool by means of fumes of tobacco injected through a tube. During the use of these clysters, several dead worms of the teretes kind came away with the stools. Noting this, Turner concluded that this might be a valuable treatment for worms, and soon after tried it on a man who had been troubled with worms for years. The treatment was applied twice a day, and produced a prodigious number of ascarides. The worms against which tobacco has been employed include round-worms, tape-worms, threadworms, and

pinworms; and the tobacco was administered by mouth (Cunningham, 1836), as a cataplasm as an adjunct to oral administration (Sigmond, 1838b), but more generally in form of an enema of tobacco infusion. This latter procedure not infrequently resulted in severe or fatal tobacco poisoning, and many cases have been reported in the literature (Tavignot, 1840, 1841; Bertini, 1846; J. B. Wilkinson, 1889; Bleasdale, 1906; Lancet *2*: 765, 1894; Ehrnrooth, 1912; Garvin, 1913; Detis, 1937; Willis, 1937; among others). It is noteworthy that in virtually all of these cases the use of tobacco or tobacco enema as a vermifuge apparently followed lay advice, and the appearance of such cases well into the 20th Century indicates that tobacco still maintains its popularity—and peril—in folk-medicine.

Disorders of Metabolism and Nutrition: *Gout.* Fumigation for gout, a procedure ascribed to the Abbé Girod, consisted according to Reveillé-Parise (1836), of exposing the ailing part for about a quarter of an hour to the fumes of tobacco thrown a little at a time on burning coals. The treatment was repeated 2-3 times during 24 hours, and continued for several days. Hinard (1843) successfully treated himself for gout in this manner; he used a portable stove, put tobacco on the burning coals, and exposed his foot to the fumes.

Growth of Hair. Sigmund (1838a) stated that the application of tobacco was useful to make hair grow on parts which had been for a considerable time denuded.

Diseases of the Endocrine Glands: *Diabetes Mellitus.* Saxe (1870-71) reported a case of saccharine diabetes following upon cessation of smoking, and relieved by resuming smoking.

Diabetes Insipidus. C. F. Mayer (1957) reported that a group of physicians in Bordeaux had started to prescribe cigarette-smoking for their patients suffering from diabetes insipidus, since smoking seemed to bring down the urinary output to normal. In a case described by these latter physicians, an average daily excretion of 6.35 liters of urine was reduced to an average of 3.55 liters by smoking 10-20 cigarettes a day (Moretti, Benelli & Meriaux, 1957).

Reproduction: *Tobacco as an Abortifacient.* Needless to say, the use of tobacco as an abortifacient is a part of folk rather than of orthodox medicine. Illustrative cases, in which such use was followed by severe or fatal nicotine poisoning, were reported by Landerer (1868) and Afanassiev (1931). Since only fatal cases are likely to become known and reported in the medical literature, it is not improbable that the use of tobacco in this connection is more common than the paucity of reports would indicate.

Skin Diseases and Local Affections: *Dermatitis.* Landerer (1868) noted that the juice which collects in the long tobacco pipes of the Orientals when they smoke is collected by those who are engaged in the cleaning of these pipes, and is used throughout the Orient as a specific agent against obstinate exanthematous diseases and also against herpetic eruptions, psoriasis, and similar chronic skin diseases in the form of a salve or even in the natural state; nicotine poisoning often resulted. A similar use of "pipe juice" or "pipe oil" was not uncommon in the Occident, with nicotine poisoning also a sequel. A young man affected with herpes tonsurans was advised by a charlatan to treat it with empyreumatic oil of tobacco, and, obtaining a certain amount from pipes, he applied it to his arm (Calosi, 1858); and similar application to vesicular herpes on the right forearm in another case (Turchetti, 1860) resulted in each instance in typical nicotine poisoning. In 2 cases, the contents of a pipe stem were used to heal a sore or a bruise on the lip of a child, and in each case poisoning and death ensued (Boston Medical and Surgical Journal 78: 340, 1868; Hare, 1885).

Other preparations of tobacco, particularly decoctions of tobacco leaves, have been employed in various skin diseases. B. J. A. Murray (1793) reported that such a decoction applied to a scabby rash produced nicotine poisoning in one man, and a man with a scurfy skin used a lotion of a strong decoction of tobacco as a cure for his skin disease with similar result. Within recent years there has been a resurgence of interest in the use of such tobacco extracts in various dermatoses. Jausion et al. (1940) incorporated an aqueous extract of tobacco (20 gm. per liter) with one-fourth the volume of 50% agar; the mixture was then spread on sterile gauze compresses to be used within 8 days. The following results were reported: in 8 cases of streptococci, impetigo, or ecthyma with delayed skin regeneration after vaccine therapy with staphylo-streptococci peptides, or after sulfa therapy, six epidermizations were obtained in 2-10 days, and 2 ameliorations were obtained after 2-3 applications; 2-20 dressings gave decisive results in 21 and incomplete results in 10 cases of post-scabes "dermo-epidermitis"; in furunculosis, complete skin restoration was obtained in 11 cases in a maximum period of 12 days, and in most in less than a week; in 9 cases of trophic ulcer

on varicosed legs, 7 cicatrized in less than 8 days, and 2 between 10-15 days; 2 cases of "epidermophitis inguinalis" resulting in mild nicotine poisoning from absorption from a large chafed surface.

Rothman & McCreary (1949a) reported failing to cure or improve a housewife, aged 57 years, with pustular psoriasis and acrodermatitis continua of the hands. The patient then, on her own initiative, soaked her hands in hot tobacco juice 6-8 times a day; the juice was prepared by boiling tobacco in water for 2 minutes, and each soaking lasted 5-10 minutes. Within one week, considerable improvement was seen in all the treated lesions, and almost complete cure of the hands and fingers was achieved in 4 weeks. Another of Rothman & McCreary's patients with a similar condition, and apparently again on her own initiative, treated herself with a decoction of tobacco with similar good result (Rothman & McCreary, 1949b).

Kaminsky, Sevinsky & Kaplan (1950) reported the treatment of pustulous dermatoses of the extremities with a tobacco decoction of the type described by Rothman & McCreary, and claimed to have produced spectacular results; the pustules dried up, the skin elements appeared, and the surface rapidly acquired an appearance comparable to the palmar and plantar skin in ichthyosis. The decoction was made by boiling 100 gm. of chopped tobacco in two liters of water for 2 minutes, then cooling and filtering. The liquid was applied 4 times a day as hot as the patient could stand; each treatment lasted 10 minutes. Solutions of nicotine did not give comparable results.

Gruneberg & Theune (1954) described a case of acrodermatitis continua in which treatment with tobacco decoction proved to be very effective, although not alone sufficient to bring about healing. The decoction was made by boiling about 40 gm. of dried raw tobacco leaves in 10 liters of water for 30 minutes. The patient took about eight 20-minutes-long hand- and foot-baths per day in this decoction; no symptoms of intoxication developed during about 18 months of treatment.

Buchvarov, Antonov & Mluchkova (1954) reported that, compared to other tars, tobacco tar possessed the most potent antipruritic, drying, and keratoplastic effect; this effect appeared especially clearly in the treatment of eczema. Out of 103 patients treated, there was an immediate good result in 78 cases following 2-4 days of treatment, manifested by drying up, epithelization of eroded areas, softening and healing of the skin, and diminishing and disappearing of itching; 4 patients did not improve; 24 showed negative results. The authors did not advocate tobacco tar as a panacea, but considered it a valuable adjunct to other forms of treatment in dermatology. They warned that tobacco tar is a potent poison, and must be washed until its nicotine content is no more than 2 parts per 1000 before using.

Tobacco as an Antipruritic. Application of tobacco was said by Sigmond (1838a) to be useful in severe itching, particularly after insect bites.

Dumas (1937) prepared tobacco ash by burning tobacco on a wire screen, then finely pulverized the ash in a mortar. He used this in the treatment of pruritis ani, ringworm, athlete's foot, and superficial ulceration, with very satisfactory effect. The ash was dessicant, stimulant, and antiseptic. Applied to wounds, it was accompanied by a moderately severe burning lasting a few minutes. As an ointment made with lanolin, it allayed the severest itching almost immediately. It was also good for a dentifrice and as metal polish.

Ringworm. According to M. G. Evans (1869), pipe scrapings mixed with a little oil were applied to an abraded area thought to be ringworm; non-fatal nicotine poisoning ensued. A similar result was reported in the case of a small girl treated for ringworm by her mother by vigorously rubbing her trunk and limbs with a mixture of writing ink and scrapings from an old tobacco pipe (J. O. Jones & Morris, 1926).

Burns. In discussing peripheral vasoconstricting agents in burns, Breidenbach (1943) stated: "We treated three other patients with second-degree burns of the hands and feet by another method for vasoconstriction of the peripheral vessels suggested by Dr. Berkaw; namely, the use of tobacco smoke. The hand or foot was encircled in a Bunyon envelope made of cellophane and a clay pipe containing tobacco had attached to its stem a bulb and rubber tubing. By pressing the bulb, smoke was forced from the free end of the rubber tube inside the envelope. The envelope was thus kept full of tobacco smoke. The burned area did not lose any fluid, it formed a thin transparent eschar, and healing took place rapidly. This method was not tried in extensive burns."

Ulcers. Application of tobacco leaf to an ulcerated arm (Murray, 1793) and to ulcers on the legs (Allan, 1871) resulted in severe nicotine poisoning.

Scabies; Itch. In experiments on the deadliness of various agents recommended for combating itch-

mites, the empyreumatic juice from the tobacco pipe, which killed the mites immediately, was found to be the most effective agent; but it could not be easily used on the skin, for there was danger that it might injure the host (Küchenmeister, cited by von Skramlik, 1948).

Melier (1824) reported that 2 oz. of leaf tobacco boiled in one pint of water and applied as a lotion twice daily, a half glass for each lotion, was a slow cure for the itch, and one not free of ill-effects, such as nausea and dizziness. Melier (1844-45) also stated that work in tobacco factories was prophylactic against the itch. Poisson (1881), however, declared that this was an illusion, but he added that tobacco workers were exempt from chilblains in their hands. Cases of nicotine poisoning resulting from application of tobacco infusions to the skin in cases of itch were reported by Sigmond (1838a) and Blanchard (1869), among others.

A preparation of nicotine salicylate called "Eudermol" was made into a 0.1% salve with lanolin, and used in the treatment of scabies by Wolters (1898). Following a preliminary soap bath, a single inunction sufficed to cure 64 of 67 patients. Children as well as adults, men as well as woman, endured the treatment without difficulty and without the appearance of any intoxication symptoms. Comparisons were made with nicotine soap. With the latter material, 2 out of 8 patients showed marked intoxication symptoms (headache, nausea, vomiting, palpitations, dyspnea).

A soap containing 10% of a tobacco extract containing about 7% nicotine (the product therefore containing about 0.7% nicotine) was used successfully in cases of parasitic and pruritic skin diseases by Taenzer (1895, 1897). Another nicotine soap, composed of 5% tobacco extract, 5% precipitated sulphur, and 90% soap, was also used with success in 32 cases of scabies, 6 cases of pityriasis versicolor, 4 cases of herpes tonsurans circumscriptus, 4 cases of urticaria, and 2 cases of prurigo incipiens (Marcuse, 1899a, b). In scabies, 3-4 days of application were required for a cure, and apparently no ill effects occurred. These soaps were made by C. Mentzel in Bremen.

Pediculosis. A salve made of snuff and butter rubbed on three children to cure head lice resulted in characteristic nicotine poisoning (Murray, 1793). Two young girls had their scalps treated against vermin with a nicotine solution; non-fatal poisoning ensued (Weill & Delore, 1923; 1924a, b).

A man suffering from pediculi pubis boiled 200 gm. of tobacco in two liters of water, then rubbed the solution over his whole body, leaving it to dry on the skin; typical nicotine poisoning resulted (Auche, 1891).

If tobacco is to continue to be therapeutically employed in the treatment of skin disorders, we suggest that, in view of the variable composition of tobaccos (especially in terms of nicotine content), it would be highly desirable to make available to physicians a "standardized" tobacco preparation for topical use. In this event, a standard strength of solution and a precise manner of its preparation (as with pharmacopoeial decoctions and/or infusions of other drugs) would allow comparison to be made between reported results of future authors.

Infectious Diseases: *Tobacco as a Prophylactic in Contagious Disease.* Allen (1835) stated that Diemerbroeck [*De peste*, 1546] has usually been quoted as authority for the anticontagious character of tobacco. During the Great Plague in London in 1665, children were told to smoke in their schoolrooms (Lancet 1: 1266-1267, 1902); and *A Brief Abstract of the Virtues of the American Tobacco Plant* (1783) records that buriers of the dead, in charge of dead-carts, at first used tobacco as a deodorizer, "little thinking that what they used for momentary relief would prove a constant preventive. When the Plague was happily stayed, the virtues of tobacco began to be investigated, and it was found that those persons who plentifully used it, either in smoking or in snuffing, had most wonderfully escaped the dire contagion; for though they visited the chambers of the sick, attended the funerals of cartloads at a time, they unexpectedly avoided the infection." Although Allen in 1835 declared that this idea that tobacco operated as an antidote to contagious and infectious diseases was gratuitous and fallacious, the belief continued to play a role in public health for some time. It was reported in *The Lancet* (*1*: 201, 1882) that smallpox having appeared in the Bolton Workhouse, the Guardians resolved to issue tobacco freely to the inmates in order that the wards may be disinfected by the fumes. And, in another note in *The Lancet* (*1*: 406, 1913) of a later date: "A good many years ago it was reported by the senior medical officer of Greenwich Workhouse that the tobacco-smoking inmates enjoyed comparative immunity from epidemics, and tobacco-smoking was believed to have had the disinfectant action in cases of cholera and other infectious diseases. Again during a cholera epidemic at Hamburg it was reported that not a single work-

man engaged in the cigar factory in that city was attacked by the disease. Later it was stated that amongst a body of 5000 cigar makers only 8 cases and 4 deaths from cholera occurred. Subsequently experiments proved that tobacco smoke destroyed the bacilli of Asiatic Cholera as well as pneumonia." This note in *The Lancet* apparently referred to the work of Visalli (1888) who found that tobacco smoke was capable of inhibiting the growth of the bacillus of Asiatic cholera; and indeed, Visalli himself concluded that, since the portal of entry of this bacillus is the mouth, tobacco smoke should have prophylactic value.

It is a fact that workmen in tobacco factories are often cited as being immune from cholera and other epidemics. In Toulouse, shortly before the French Revolution the workmen in the State tobacco factory were said to have remained immune during a deadly epidemic of suette [miliary fever] (Lancet 1: 1266-1267, 1902). Melier (1844-45) stated that the manufacture of tobacco appeared to preserve the workmen from intermittent fevers [malaria]. This was denied by Ruef (1844-45) and by Poisson (1881); but W. L. McGregor (1845) expressed his own belief in the prophylactic power of tobacco in malaria.

Some of the theories and studies on the subject of "Does Smoking Protect Against Infection?" were briefly reviewed in the British Medical Journal (2: 253, 1889). Granting that pyridine, "a destroyer of bacteria," has been demonstrated to be present in tobacco smoke, the Journal made the following conclusion: "We advise non-smokers not to put their trust in pyridine during the prevalence of fevers, and to remember that their tobacco-loving friends owe their immunity to good health and strength, which enables them to stand tobacco and, at the same time, to resist infection." A later annotator in The Lancet (1: 406, 1913), writing of the germicidal properties of tobacco smoke and the reported beneficial disinfectant action in cases of cholera and other infectious diseases, went on to say: "Excessive tobacco-smoking, of course, may easily give rise to constitutional effects which diminish the resisting power of the body to disease, in which case it is probable the habit would afford not only no protection but an opening for invasion."

The supposed disinfectant action of tobacco smoke on bacteria in air has been investigated under controlled laboratory conditions. Twort & Baker (1940) studied the effect of exhaled cigarette smoke on *Escherichia coli* [colon bacilli] in the air. Cigarette smoke had no apparent effect on the bacteria, although a smoke generated from cardboard damped with a 2% solution of potassium nitrate and fired proved highly lethal to the organisms. Kliewe & Oberfeld (1950) undertook a study to determine whether the old custom of smoking a room to free it of contagion had any merit, but they neglected to draw any definite conclusions from their experiments. Smoke from tobacco, paper, straw, hay, and asthma powder were all found to have a bactericidal action against suspensions of *B. prodigiosum, Esch. coli,* and *Sarzina lutea* sprayed into a closed room by means of a hand atomizer; no very marked differences between the various types of smoke were apparent.

During the years 1907-1909, de Berrmabon (1910) studied the possible prophylactic effect of smoking on cerebrospinal meningitis using French army personnel. Of 286 soldiers questioned, 94.4% were smokers, and of 49 cases of meningitis during the period of study, 44.1% were non-smokers and 30.2% were only occasional smokers, from which this author concluded that smokers had a relative immunity to this disease. Bogen (1937) suggested that perhaps a slightly increased resistance against tuberculosis might be afforded by the relatively harmless anthracosis resulting from the dust found in tobacco smoke. In general, however, modern epidemiological studies have not revived the once widely-held belief that tobacco or smoking is prophylactic in infectious diseases.

A beneficial or curative action of tobacco or smoking has been reported for the following infectious diseases:

Common Cold. "A few pinches of tobacco snuff at the commencement of a cold is a popular remedy" (Thomson & Negus, 1937).

Rabies. The use of tobacco in hydrophobia was based on the analogy between the spasms of this disease and those of tetanus (see below). Sigmond (1838e) had no confidence in the power of tobacco to arrest the disease, but inclined to the view that tobacco enemas or injections would make the last hours of life more supportable. Haskell (1859) recommended the use of tobacco smoke *per rectum* in the treatment of hydrophobia.

Typhus. Wertheim (1851) claimed that in the prodromal stage of typhus and other exanthematic processes, 1 mg. of nicotine or coniine would produce a significant and frequently lasting improvement of all the symptoms; the lesser the degree of symptoms, the greater the dose needed to produce improvement.

Erysipelas. J. G. Stephenson (1857) asserted that tobacco was most reliable in subduing erysipelatous inflammation; he covered the inflamed surface with wet tobacco leaves, which he permitted to remain until much nausea was produced.

Furunculosis. Jausion and co-workers (1940) claimed to have obtained complete skin restoration in 11 cases of furunculosis by application of a tobacco-infusion agar mixture (for details, see above under *Skin Diseases*).

Tetanus. Edmund Gardiner in "The Trial of Tobacco" (1648) wrote: "The suffumigation of tobacco being taken, is a good medicine for the starknesse or stiffnesse of neck called tetanus, for any pains or aches in the body proceeding of the cause that tetanus doth" (quoted by Sigmond, 1838d). Although Sigmond himself did not feel that any medicine was dependable in tetanus, and expressed his belief that spontaneous recovery underlay at least some of the claims for the therapeutic efficacy of tobacco, a considerable number of case reports in the literature testify to the use of tobacco, and later of nicotine, in this condition. Duncan (1815) reported having cured a case of tetanus with the aid of tobacco-smoke enemas. O'Beirne (1822), Anderson (1824, 1826), S. Jackson (1826), Smart (1830), Cavenne (1836), and Bullock (1841) described cases of tetanus successfully treated by tobacco administered by local application to the skin in form of poultices and cataplasms (Anderson), by applying a strong tobacco docoction to the open wound through which the infection had gained access (Jackson), by injection of tobacco *per anum* and *per vaginam* (Smart), or by tobacco enemas (Cavenne; Bullock). The progress of the cure was described by Smart: "The patient became pale and cold; tremor of the extremities; a small feeble pulse; anxiety and oppression at the praecordia, with efforts to vomit, soon followed by powerful vomiting, and a gradual opening of the jaw."

Simon & Clapton (1858) treated a case of traumatic tetanus with nicotine, 1/12 minim hourly, increasing gradually to 1/6 minim and later to 1/4 minim hourly. Each administration produced marked relief of muscular spasm for a short period. Untoward effects of nicotine included giddiness, profuse perspiration, and nausea. Nicotine therapy was continued over a period of 7 days, and the patient recovered. Haughton (1862) reported three cases of tetanus in which nicotine worked to advantage: in the first case, nicotine relieved the agonizing pain and relaxed the spasms, but the patient died from double pneumonia; in the second case, 26.4 grains of nicotine were administered over 11 days; in the third case, nicotine in doses of 1-2 drops in sherry and water was given as needed over a 4-day period (total, 54 drops or 32.5 grains), the nicotine relieving the spasm of the muscles and the patient eventually recovering. Tufnell (1863a, b) treated his case of tetanus by oral nicotine therapy lasting 6 days; repeated doses were necessary, since spasms tended to return every few hours (the dose used must have been quite large, for the author states that in 40 seconds after administering the first dose, the whole surface of the patient's body became covered with sweat). Later, before the Surgical Society of Ireland, Tufnell stated that he had used nicotine on three occasions in treating tetanus, twice successfully and once unsuccessfully. Morgan (1869a, b) communicated to this same Society the case of a boy of 15 with a compound fracture of the great toe in whom tetanus developed; treatment included repeated doses of 1/23 drop of nicotine plus 5 drops of Liq. Morph. over a period of 6 days, with subsequent recovery of the patient. In the ensuing discussion, Babington stated that he once gave 1/3 drop of nicotine in a case of traumatic tetanus, but abandoned it in consequence of the frightful depression induced. Ogle (1864a, b) reported having administered nicotine in a case of traumatic tetanus without averting a fatal termination.

The early literature on this subject was reviewed by O'Beirne (1822). Later, Hare (1885) discussed the use of tobacco in the treatment of tetanus.

Plague. Mallanah (1918) advocated the use of tobacco leaves on the floor in plague areas to destroy the plague-carrying fleas, and described an experiment in which he arranged to "tobacco" 52 houses while using 52 others as controls. Out of the controls, 7 cases of plague occurred, while of the "tobaccoed" houses, in only one did a case of plague occur, and the author explained this as due to insufficient use of tobacco.

Tuberculosis. Ruef (1844-45) stated that tuberculosis was rare among tobacco workers who had been employed from infancy in tobacco manufacture; moreover, that this disease progressed much less rapidly in those who brought to their work an already developed germ. Melier (1844-45), however, found no evidence of a beneficial effect of tobacco manufacture on tuberculosis in the workman, and Poisson (1881) considered that the curing of tuberculosis by manufacture of tobacco was an illusion.

Cock (1889) observed that chewing tobacco from

about the ages of 20 to 30 by those predisposed to tuberculosis of the lungs, would prevent its development. He believed it did this by counteracting the plethoric conditions of adolescence and also by acting locally as a curative agent in destroying the tubercle bacillus. Jankau (1894) stated that smoking should be encouraged in the early stages of tuberculosis for its antibiotic action on the tubercle bacillus.

On the theory that a pulmonary antisepsis in conjunction with an active and prolonged pulmonary hyperemia might give therapeutic results in tuberculosis, Karyophillis (1951) employed cigarettes containing 5-10% flowers of sulphur added to the tobacco in the treatment of 42 cases of chronic pulmonary tuberculosis; 8-10 cigarettes were administered per day over 4-12 months. In 4 cases, no results were obtained; in 5 cases, the result was very poor or static; but in the other 33 cases, great clinical and radiologic improvement was said to have been brought about, complete clinical recovery being attained in many cases.

Venereal Disease. In *France Antarctique* by Thevet (Paris, 1558), there is a woodcut representing a man being cured of yaws by suction: one of his attendants, a naked Indian, holds in his mouth what appears to be a smoking cigar or cigarette. According to *The Lancet* (*2*: 1480, 1912), the sores of yaws and syphilis were washed out with tobacco juice in South Carolina in the 18th Century, and "we are at liberty to infer that smoking had for long been resorted to as a cure for these diseases. There can be but little doubt that at the time of its introduction into England, smoking was regarded by the mass of the people as a sign that the smoker was endeavoring to cure himself of a nameless complaint."

Intermittent Fever [*Malaria*]. Wertheim (1851) claimed curative effects for 30 mg. doses of nicotine in intermittent fever.

Hjorth (1852) reported that a young female suffering from intermittent fever was treated as follows: a leaf of tobacco as large as the hand was soaked in three or four pints of goat milk overnight; on the next day, 2 or 3 spoonsful were administered to the patient, the bad taste preventing taking of the remainder. Non-fatal nicotine poisoning developed. C. S. Shaw (1878) reported the case of a 35-year-old man with malaria who accepted a prescription from a friend who warranted its efficacy. It consisted of 1/3 pound of refuse tobacco (stems and leaves) and 2-3 heads of garlic steeped in a pint of brandy; the dose was one tablespoonful 3 times a day. The patient followed the directions for 3 days, and ultimately died of nicotine intoxication.

Diseases of Allergy: *Asthma.* In former years, tobacco was recommended as a remedy for relief of asthma on account of its antispasmodic effects (W. S. Thomas, 1928). "In disordered respiration." wrote Sigmond (1838f), "this herb obtained the well-merited confidence of the older physicians, in cases [of spasmodic asthma] where no organic alteration has occurred. It has, however, nearly fallen into neglect, from which state it will most probably revive, for it has lately been tried to a very great extent, and with no small success, under a false name [a spirituous tincture of the tobacco having been supplied to physicians under the name of *Lobelia inflata*, which latter drug was then in great demand]. My own experience had led me to its frequent employment; nor did I discover for some time the artifice which had been practiced. It, however, induced me to place great reliance on the aetherial tincture of tobacco, to mitigate the paroxysms of spasmodic asthma. It must, however, be remembered that where the lungs are diseased, it is capable of exacerbating the complaint, and that it always demands the careful discrimination and judicious watchfulness of the medical man." Sée (1869) also held that the actions of tobacco were antagonistic to asthma; hence, he recommended the moderate use of tobacco by asthmatics but at the same time cautioned that immoderate use provoked attacks. P. Smith (1890) recorded the case of a woman who had used tobacco for years for the relief of asthma, who eventually developed tobacco amblyopia.

The mixture of tobacco and leaves of the thorn apple (*Datura stramonium*) has, from olden times, been used as a remedy for asthma in the form of so-called "asthma cigarettes". Lickint (1925c) believed that the nicotine of the tobacco weakened rather than reinforced the bronchial antispasmodic action of *Datura stramonium*, and therefore, advised inhaling the smoke of burning stramonium leaves alone.

Barach and his colleagues (1952) studied the effect of cigarette smoking in patients with bronchial asthma and pulmonary emphysema. In some of these patients, in whom coughing was due to inhaling cigarette smoke, there resulted expectoration of considerable amounts of bronchial secretions, and a marked relief of dyspnea took place, with a concomitant rise in vital capacity and in maximal breathing capacity. According to these authors, cough thus

produced should not be interpreted simply as an irritative phenomenon, but must be viewed also in the light of its physiologic use as a factor in drainage. If bronchodilating drugs have separated mucus from the bronchial wall, and this is not spontaneously followed by expectoration, deliberate coughing is recommended. Smoking 3 cigarettes in succession also produced, in some cases, increased bronchospasm, demonstrated by decrease of the vital capacity and maximal breathing capacity; but the point at issue was not to evaluate the harm or the advantage of smoking, but to emphasize the functional significance of either a natural or stimulated cough when it is followed by expectoration of mucus and pus from the bronchi.

Urticaria. Marcuse (1899a, b) successfully used a nicotine soap in the treatment of 4 cases of urticaria (for details, see above under *Skin diseases*).

Collagen Diseases: *Rheumatism.* Melier (1844-45) reported that Berthelot had informed him that a cataplasm made of linseed meal and decoction of tobacco promptly assuaged rheumatic pain and effected a cure as quickly as any of the modes of treatment commonly used in that disease. Workmen in tobacco factories were convinced of its efficacy in rheumatic pains, knowing of no better remedy than a good sleep on a heap of tobacco. But Ruef (1844-45) denied that the emanations of tobacco were efficacious against rheumatism in tobacco workers.

In the case, described by Polko (1854), of a man who treated rheumatism in his legs by applying dry tobacco leaves moistened with honey, non-fatal nicotine poisoning resulted.

EPILOGUE

Tobacco made its world-wide conquests under guise of a drug. But the dangers attendant upon its therapeutic use, as well as the discovery of safer, more efficacious, and often more specific remedies for many of the diseases in which tobacco was once employed, have taken *Herba Panacea* out of the pharmacopoeias, and, indeed (in spite of more scientific therapeutic tests by some modern physicians), generally out of medical practice as well. Tobacco as a drug is now primarily of only medico-historical interest.

Or is it? Have we not forgotten that most essential and characteristic of all the pharmacological—and hence therapeutic—properties of nicotine: its unique biphasic action on the higher, if not the highest nervous centers of man? Have we not forgotten that, by virtue of this effect, tobacco has been used and celebrated for over three centuries as what we are now pleased to term a "tranquilizing" drug—a "tranquilizer", moreover, with perhaps a higher therapeutic index of safety and a lower incidence of dangerous side-reactions than any white tablet or colorful capsule similarly chronically used. If such a view appears to be elevating—or degrading—or returning tobacco to its ancient honorable place in the pharmacopoeia, we must confess it is all a matter of definition. A pipe or cigarette which soothes and relaxes, may be said, when smoked by a "patient", to "tranquilize". That many millions of such "patients" also derive pleasure from this particular tranquilizing drug is at least a therapeutic virtue which smoking shares with very few other drugs, past or present. Thus, we may suggest, in a conclusion which has perhaps something more than medico-historical interest, that tobacco is either a tranquilizer with the not unimportant side-effect of inducing pleasure, or it is a "pleasure-drug" (as the Germans graphically term it) with the very useful side-effect of tranquilizing. With the world what it is; and, judging from the consumption of tobacco in past ages, what it was; and judging from our newspapers, radio, and television, what the world is likely to be—we may well be grateful that we have such a drug as tobacco among what we should call, in paraphrase, our "Old and Nonofficial Remedies."

Editor's Note: A full bibliography will be included with reprints, copies of which may be obtained from the authors.

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Idiopathic Hemachromatosis Treated by Massive Venesection

Report of a Case

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HEMACHROMATOSIS is an uncommon, chronic and progressive disorder of iron metabolism characterized clinically by the triad of cirrhosis, diabetes and bronze pigmentation of the skin. It is basically an iron storage disease and the pathogenesis depends upon the overloading of the body with iron. The etiology of hemachromatosis is not factually established but the metabolic error is accepted as being inborn. There is evidence that iron absorption is increased and there is probably failure of the duodenal mucosal blocking mechanism[1]. The normal body content of iron totals three to five grams. In hemachromatosis the iron content is in the range of 20-60 grams.

Treatment in the past has concerned itself with the hepatic cirrhosis, diabetes and heart disease. Medicinals to decrease iron absorption and increase iron elimination have in recent years received some attention only to be discarded as of no practical value[2]. The absence of an excretory path for iron in man and the knowledge that blood contains 50 mg. of iron per 100 c.c. led to the idea of repeated venesection as a means of iron elimination. The abnormal iron deposits are known to be readily available for hemoglobin synthesis[4]. In 1947, Davis and Arrowsmith[3] began their series of cases treated with massive venesection, the report leading to use of phlebotomy in the case presented below.

This 47 year old white male, truck driver, was admitted to the Winchester Memorial Hospital May 18, 1956. He gave a story of excellent general health until about two weeks prior to the date of admission. He at that time became ill with an acute upper respiratory infection with chills, fever, cough, generalized aching and malaise. There was some nausea, occasional episode of vomiting and occasionally some diarrhea. His local doctor had given him several forms of medication with some symptomatic relief. After three days of treatment his appetite returned and he felt fine but he had lost 10 pounds in the time between onset and remission. About four days prior to admission the patient had had a relapse of generalized aching through the flanks and across the abdomen with gas, distention, bloating and anorexia. Occasional vomiting had again appeared. The systems review was, otherwise, negative. Physical examination revealed a man who appeared to be about his stated age, temperature 96.8, blood pressure 130/80, pulse rate 90, respirations 18. It was remarked at the time of admission that he looked sick and the color of his face was peculiar. This same discoloration applied to the forearms and areas of the trunk. This color change was one of a demarcated slatish hue more suggestive of argyria than anything else that came to mind at that time. The other positive findings were limited to the abdomen which was large and firm, and a rather nodular liver that was down perhaps five fingers into the right flank and extending across the epigastrium could be easily demarcated. The spleen was not palpable.

The significant laboratory work showed WBC 16,550, 76 pmn., 24 lymph., hemoglobin 14.4 grams, RCV 44.5. Urine urobilinogen 1:200, bile negative. Urine specific gravity 1.026, albumin and sugar negative, many WBC's in the sediment per high power field. Serology negative. Urine culture produced Escherichia coli. Blood urea nitrogen 22.8 mg.%, fasting sugar 109 mg.%, amylase 140 S. units, bilirubin .9, cephalin floc. 2 plus, alkaline phosphatase 20.4 K-A units. BSP 12%. Stool negative for bile, positive for occult blood. (The patient apparently had a prostatitis to account for the pyuria which cleared on chemotherapy.) Total protein 6.5 grams, albumin 39%, alpha globulin 5%, alpha 2 20%, beta 18%, gamma 18% (paper electrophoresis). X-rays were made of the chest, abdomen, gall bladder, upper gastrointestinal tract, colon and kidneys, none of which showed remarkable abnormality with the exception of a rather faint shadow of the gall bladder on that test.

On May 30, 1956 a liver biopsy was done through an abdominal incision and the pathologic report stated "the section of liver showed an essentially normal architecture except for a definite increase in the fibrous tissue at the portal zones with

some lymphocytic infiltration. In a few zones there is some suggestion of bile duct proliferation. The main feature of this section is a marked deposit of brown pigment, presumably the blood pigments hemofuscin and hematoidin. The pigment is found in the hepatic cells, in the Kupffer cells and in indeterminate cells in the connective tissue. A combination of this excessive amount of iron pigment with the portal zone fibrosis is characteristic of the clinical entity known as hemochromatosis."

The patient had recovered from the malaise which caused his admission to the hospital. He had been on a high protein, low salt diet with vitamin supplementation and bed rest. A low grade fever diminished toward the end of the hospitalization to insignificance. In the last week of his hospitalization there was removed 2500 c.c.'s of blood reducing the hemoglobin to 11.9 grams and RCV to 36%. Arrangement was made for venesection of 600 c.c. of blood every week. In July of 1956, the patient was returned to the hospital where it was found his bromsulfalein was 2%, WBC 9,700, hemoglobin 13.6 grams, RCV 42. In August, 1956 the patient was re-admitted and it was noted the liver was definitely smaller being 2 to 3 fingers below the costal margin. He was symptom-free. Bromsulfalein was 7%. Cephalin floc. was plus-minus. WBC 10,000, hemoglobin 14 grams. In February, 1957, the patient was re-admitted again symptom-free and now subsequent to 36 venesections averaging 600 c.c.'s each. It is remarked that he felt fine, appetite excellent, digestion good, bowels regular, weight gain of 20 pounds and working full time. The liver at this time was found to be about 3 fingers below the costal margin, non-tender but quite firm. Bromsulfalein was 4%, cephalin floc. plus one, hemoglobin 13.8 grams, RCV 43. On September 20, 1957, the patient was re-admitted. The skin pigmentation could now be considered unnoticeable. He was symptom-free and working full time. Weight constant, appetite good. Liver firm and about 1" below the costal margin. Laboratory findings: hemoglobin 14.5 grams, alkaline phosphatase 10.9, hematocrit 47%, bromsulfalein 3%, total protein 6.5, albumin 51%, alpha$_1$ G. 6%, alpha$_2$ G. 16%, beta G. 16%, gamma G. 11% cephalin floc. negative. He was bled for the 55th time (total 33,000 c.c. of blood). For six months the patient had been returning at intervals of every two weeks instead of weekly.

COMMENT

A long enough time has not passed since inception of phlebotomy for hemachromatosis to develop a definite opinion relative to its long term benefits. However, Finch and Finch[5] presented statistics based on the review of 787 cases of hemochromatosis that clearly define the poor prognosis prior to venesection. According to their publication the average life expectancy after the onset of symptoms is 4.4 years. If diabetes appeared the life expectancy even with the best control possible was only three years. Cirrhosis of the liver accounted for 45% of the deaths and heart failure for 30%. Diabetic coma which prior to 1935 accounted for 50% of the deaths[3] accounted for less than 5%. The excessive iron deposition in the cells and the resultant damage is felt to cause all the symptomatology although experimental attempts to reproduce pathology and symptoms by iron injection has not been successful. Finch and Finch conclude that the factor of time is the reason for the lack of experimental correlation in that two to three decades of excessive iron deposition occur in the human while no more than two years have been observed in the animal experiments.

Of 17 collected cases by McAllen[3] all showed the response, as did our patient, of increased sense of well being, decrease in liver size, decrease or disappearance of skin pigment and disappearance of liver iron by serial biopsy. All were maintained at their usual work throughout treatment.

Phlebotomy is carried out at intervals of one or two weeks, removing 300-600 c.c.'s of blood each time. The criterion for cessation of treatment requires the appearance of a significant anemia (10-11 grams hemoglobin per 100 c.c). In McAllen's series this occurred in from one to four years and involved removal of from 16 to 70 liters of blood[3]. Even larger amounts had been removed in several of the cases in the series of Davis and Arrowsmith. The appearance of the anemia indicates complete removal of the excessive iron deposits. McAllen recommends blood letting once or twice annually after this stage is reached. It is of interest that the early fear of serum protein deficiency that led Davis and Arrowsmith to replace plasma in several of their early cases never materialized and is not advised by any writers on the subject [2,3,5]. Diabetes was favorably affected so far as control measures were concerned in several of the cases, requiring less insulin and remaining more stable[2,3]. In the one case of heart failure in McAllen's series the patient recovered from the decompensation and in the subsequent three years of phlebotomy treatment did not again become decompensated[3].

The possibility of arresting the disease by phlebotomy and removal of excessive iron seems good.

SUMMARY

A case of idiopathic hemochromatosis treated for 17 months by massive venesection with good remission is reported. A review of current literature is presented.

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Medical Grievance Committees

More than 1,100 American county and state medical societies now have "medical juries"—grievance committees organized to mediate differences between doctors and patients. The accomplishments and aims of grievance committees are outlined in a special article and editorial in the April 5th Journal of the American Medical Association.

Medical grievance committees are not really new. Since 1871 the committee on ethics and discipline of the Massachusetts Medical Society has been mediating the complaints of patients. What is new is the spread of the committees across the nation. During the last 10 years more than two thirds of the county societies and all the state and territorial association have organized them.

Serving on these committees are between 5,000 and 10,000 physicians who fearlessly "judge complaints routinely in the twin light of public interest and professional service."

On one hand a committee may rule in favor of the patient, saying, for instance, about the doctor involved, "Fee for prenatal visits considered excessive." On the other hand, it may decide in favor of the physician. One example is that of the patient who protested that he was charged $40 for "just one office visit." Investigation showed that, at his own request, the visit entailed a thorough examination including a fluoroscopic study, electrocardiogram, and extensive laboratory work. When he understood what the fee covered, he withdrew the complaint with apologies.

The majority of complaints against doctors are "due not to incompetence or greed but to misunderstandings—misunderstandings which could have been dispelled quickly if there had been an opportunity to determine the cause in frank discussion."

"So many complaints have been caused by a misunderstanding of the basis for a doctor's fee that grievance committees spend a good deal of time emphasizing the importance of discussing costs before, and itemizing bills after, medical service."

The A.M.A. has taken a double-barreled approach on fees—urging doctors to discuss fees before service and calling upon state and county societies to crack down on the few doctors who have been overcharging.

Most grievance committees do not mete out punishment when they find a complaint justified. A Colorado spokesman has pointed out that "You cannot be prosecutor, judge, and jury all in one body." When disciplinary action is needed, it is usually referred to the appropriate judicial body of the association.

Most of the committees are composed of physicians only, but some include laymen—lawyers, ministers, and businessmen. Inclusion of laymen is still in the experimental stage, according to the A.M.A. Council on Medical Service. "But they may serve to strengthen community trust in the impartial attitude of the committee. . . ." However, one West Coast woman was quoted as saying, "In our community we know the doctors are working to protect us, not other doctors' careers."

One way to help the community know about the grievance committees is to publicize them. The Council on Medical Service has pointed out that the service "cannot succeed unless the public knows of its existence and understands how to use it."

The Journal editorial said the grievance committee is "here to stay as an integral part of our profession. In the years ahead only technique may need refinement. . . ."

Postpartal Fibrinogenopenia

An Unusual Case

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INCREASING ATTENTION is being paid to cases of acquired afibrinogenemia and fibrinogenopenia during pregnancy[1-9] It has been established that this blood clotting defect is frequently associated with other clotting fraction abnormalities[2]. Most of the cases reported with acute hemorrhagic episodes have occurred during labor, at delivery, or in the immediate postpartum period[1-7].

Few cases of postpartal afibrinogenemia are reported[3,7]. One theory regarding its cause involves the destruction of fibrinogen by a fibrinogenolysin[12,13]. Another involves the formation of small intravascular clots following infusion of intrauterine thromboplastic substances with resultant depletion of fibrinogen[11,15].

This report deals with a case of gastric hemorrhage occurring on the fourth postpartal day in a secundagravida who had hepatitis and a dead fetus in utero for three days. After correction of the acute fibrinogenopenia, she developed a high antithrombin titre.

This case is presented as another example of late puerpueral bleeding as a result of fibrinogenopenia and the possibility of other associated clotting defects.

CASE PRESENTATION

M. Y., a 32 year old para 1-0-1, gravida II, was admitted to the obstetrical service on March 30, 1957, with a diagnosis of acute gastritis. Her expected date of confinement was April 27, 1957. Her past history revealed that at an early age she had had scarlet fever and has had defective hearing since. Reportedly, she had hypothyroidism and had been taking a grain of thyroid daily. Her prenatal history and physical examination on March 6 were normal.

The present illness began on March 16, with symptoms of indigestion and an upper respiratory infection. On March 20, the patient received her second poliomyelitis vaccination. On March 28, two days later, she was seen with complaints of general malaise, intermittent chills and fever, nausea and vomiting. At this time, a physical examination was essentially normal and her illness was diagnosed as a "viral influenza". One dose of 25 milligrams of Thorazine was given as symptomatic treatment. Two days later, the patient was admitted from the emergency room where she complained of nausea and vomiting without diarrhea of four days duration.

Hospital Course

On admission, the physical examination revealed an essentially normal intrauterine gestation of 30-32 weeks.

From March 30 to April 3, she was treated conservatively and symptomatically with improvement. On April 3, she developed an upper respiratory infection, herpetic perioral lesions and icteric sclerae. On April 4, generalized jaundice was noted. The liver was not palpable and there was but minimal right upper quadrant tenderness. Electrolyte studies were done daily and intravenous fluids given accordingly. On April 6, the fetal heart sounds were no longer heard. On April 8, the patient spontaneously delivered a macerated stillborn infant after a three hour labor, under pudendal block anesthesia. She sustained a second degree perineal laceration which was repaired without evidence of any unusual bleeding.

The postpartal course was uneventful for three days. The patient improved and had increased urine output and no nausea or vomiting. The uterus remained well contracted and she had normal lochia rubra.

On April 11, the fourth postpartal morning, she developed severe hematemesis, and went into shock. The blood loss was estimated at 1000 cc. A cut down was made and 500 cc. of blood rapidly infused. A fibrindex test* showed no clotting. The patient was given another unit of blood and then four grams of fibrinogen intravenously. Blood clotting checked by fibrindex and gross blood clot retraction had now returned to normal. The cut down was kept open for two days and the patient was given penicillin and

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*Ortho Pharmaceutical Company. Trade name for a Semi Quantitative Test for fibrinogen which involves essentially adding thrombin to plasma.

vitamin K_1 oxide. Thereafter, the fibrindex test continued to be abnormal, but the clot retraction and gross blood clotting were normal. On April 12, she received two grams of fibrinogen and one unit of fresh blood and on April 13, she received one gram of fibrinogen and one unit of fresh blood.

Her clinical condition improved and the jaundice cleared rapidly. On April 22, a gastrointestinal series and barium swallow were normal. She was discharged home on May 6, after continued improvement.

The patient was readmitted to the hospital, six weeks later on June 26, with symptoms of nausea, vomiting, myalgia, general malaise and apprehension. She also had icterus. Treatment consisted of complete bed rest, a high protein, high carbohydrate diet, and vitamin therapy. She developed clinical jaundice without evidence of hepatomegaly and her total serum bilirubin ranged up to 10.1 milligrams per cent. The remainder of her laboratory studies were consistent with hepatitis. She continued to improve on bed rest and supportive therapy until the jaundice completely cleared and the serum bilirubin again became normal. After continuous improvement, she was again discharged home on bed rest and chair rest.

Laboratory Studies

After blood transfusion and fibrinogen administration, the daily clot retraction and clot stability were normal. Daily fibrindex tests continued to show evidence of fibrinogen deficiency. Repeated platelet counts, bleeding and clotting time determinations were normal. The prothrombin times (Quick, one stage) ranged from 25-15 with a control of 15. The initial serum bilirubin on April 4 was 10 milligrams per hundred cubic centimeters total and 6 milligrams per hundred cubic centimeter direct, increasing to a maximum of 25 and 13 milligrams per hundred cubic centimeters respectively on the eleventh of April, then gradually subsiding to normal in the next 30 days. Alkaline Phosphatase ranged from 9.8 Shinowara-Jones units on the 7th of April to a maximum of 19.8 on the 20th of April and then returned to normal by the 29th of April. The patient's plasma and blood were checked for evidence of a fibrinolysin, fibrinogenolysin, and circulating anticoagulants on two occasions, and none was evident. Her blood type was A, Rh positive. The Rumpel-Leede and erythrocyte fragility tests were normal. The presence of an antithrombin factor was noted by assays* done on April 20 and on May 13, the day of discharge. Both showed high titres, with some improvement in the latter. Her fibrinogen level on discharge was 208 milligrams per hundred cubic centimeters.

The laboratory studies during the second admission were compatible with hepatitis. The alkaline phosphatase ranged from 16.8 Shinowara-Jones units on June 28 to 32 units on July 5, and then returned to normal by August 5. Total serum bilirubin ranged from 1.23 milligrams per hundred cubic centimeters to 10 milligrams on July 8 and then returned to normal range of 1.73 by August 17. The BSP test showed 70% retention on June 27 and returned to normal by July 15. Fibrindex tests persistently showed low fibrinogen levels. The antithrombin titre was still present on the day of discharge.

DISCUSSION

There are many facets to this case. The hepatitis, the dead fetus in utero for three days, an uneventful delivery followed in three days by an acute gastrointestinal hemorrhage and shock. The following sequence of events might explain the clotting defect. This patient had a subclinical hepatitis and then five days later developed jaundice. This left her liver with impaired fibrinogen production. The dead fetus in utero for three days added its insult, causing fibrinogen depletion, supposedly by infusion of thromboplastic substances[1,14,15]. When delivery occurred, there was no unusual bleeding because the critical fibrinogen level had not been reached. It is postulated that postpartally there was some increased tissue thromboplastic substance[1,11,14,15] from the involuting uterus or a fibrinogenolysin[12,13] causing depletion of fibrinogen to a critical level. The resultant gastrointestinal hemorrhage occurred from a congested gastric mucosa, irritated by previous vomiting and wretching, secondary to the liver disease.

After the administration of fibrinogen, the bleeding stopped, but an antithrombin titre developed. This has been explained theoretically as due to the body's reaction to the intravascular clotting or to the administration of fibrinogen[8].

This case illustrates the importance of determining fibrinogen levels during pregnancy, especially in the presence of liver disease, the dead fetus syndrome, and other conditions contributing to fibrinogenopenia. Other clotting defects such as antithrombin factors are possible and should be investigated.

*I wish to thank Dr. H. O. Singher of Ortho Research Foundation for his cooperation in doing these studies.

SUMMARY

A case of hepatitis with retention of a three day dead fetus in utero and late postpartal fibrinogenopenia with resultant gastrointestinal hemorrhage, shock, and the development of a high antithrombin titre is presented. Attention is called to the possibility of the many factors which might cause fibrinogenopenia: liver disease, a dead fetus, thromboplastic substance infusions and others.

Fibrinogenopenia is not of necessity a condition which occurs at delivery or in the immediate postpartal period, but may occur later[3,7]. The possibility of antithrombin factors or other clotting defects should be kept in mind and investigated.

It is logical and advisable to determine the fibrinogen level of every woman sometime during her pregnancy. This would serve not only as a screen for fibrinogen defects, but as a baseline for any clotting defects which might occur later in pregnancy.

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Care of Burns

To minimize pain and suffering from burns—which cause more injury and death among children than any other accident—parents need to know how to identify and treat them.

Some rules, listed in the July Today's Health, an American Medical Association publication, are:

—Because youngsters grasp anything within reach, never allow conditions to exist which lead to accidents; keep matches from children; keep pots from the edge of the range, and keep youngsters from fires.

—Determine quickly the degree of burn—first degree, the skin is red; second, the skin is blistered; third, the skin is charred.

—For first or simple second degree burns, coat the affected area with an antiseptic ointment or olive or baby oil. This relieves pain and prevents the skin from cracking and drying out.

—For deep second and third degree burns, call a doctor immediately, since shock and infection may occur. A layman should not try to treat either.

The Efficacy of Cecostomy in Selected Cases of Paralytic Ileus

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RUPTURE OF THE CECUM following mechanical obstruction of the distal colon is uncommon but not rare in the experience of most general surgeons. Ravid[4] reported 81 cases of diastatic rupture of the alimentary tract secondary to a distal obstruction, and 53.8 per cent of these occurred in the cecum. Lowman[3] collected 79 reported cases of rupture of the cecum and added 19 cases from personal experience. The mortality rate of Lowman's series was 75 per cent, despite all forms of surgical and medical therapy.

On the other hand, rupture of the cecum resulting from a paralytic ileus is extremely rare. In 1927, Hunt[2] referred to paralytic ileus as a "serious menace to life" if not relieved. He proposed the use of enterostomy, or preferably cecostomy, for relief in the "resistant case". Cheever[1] several years later advocated the "operative evacuation of the small intestine in paralytic stasis".

The paucity of recent reported cases of rupture of the cecum secondary to paralytic ileus is probably the result of Wangensteen's[5] contribution in 1931 of the principle of alimentary tract decompression by the use of an indwelling tube. It is unusual for this method of decompression to be ineffectual, and even more unusual if it is used in conjunction with the administration of parasympathomimetic drugs. The occasional usefulness of operative intervention for decompression of the cecum in cases of paralytic ileus is also virtually unreported in the recent literature.

MATERIAL

The present report is the result of an analysis of five cases observed at the Cincinnati General and the Veterans Administration Hospitals between 1955 and 1958. Each of the cases was correctly diagnosed as one of paralytic ileus, and each had been given adequate trials of alimentary decompression by various types of indwelling tubes. Parasympathomimetic drugs were given in three cases as adjuncts to decompression therapy in an effort to stimulate peristalsis. However, when these forms of therapy failed and the cecum continued to enlarge as noted by serial roentgenograms, a cecostomy was performed in each case. This was done as an emergency measure to prevent perforation of the progressively enlarging cecum and to prevent the almost fatal prognosis should perforation of the cecum occur.

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CASE REPORTS

Case 1 (R. K. #314276). A 69 year old white male, admitted February 6, 1955, with a fracture of the right tibia and fibula. The fractures were reduced and the leg placed in a cast. The general

Figure 1

condition was otherwise satisfactory. On the fourth day following admission, abdominal distention developed. Roentgenograms revealed a bowel pattern of paralytic ileus. A Levin tube was placed into the stomach without relief. Sigmoidoscopy and barium enema studies revealed no colon obstruction. Cantor

tube intubation and Prostigmin® therapy did not relieve the progressive distention. By the ninth day, serial roentgenograms revealed the cecum to be tremendously dilated. (Fig. 1) An emergency cecostomy was then performed under local anesthesia. On the anterior taenia, there were five areas of gangrene approximately 6 millimeters in diameter. One of these areas perforated as the cecum was exposed. The gangrenous areas were inverted and a mushroom catheter placed into the cecum. The cecum immediately decompressed to approximately one-half its previous size. The patient fully recovered, and the wound was healed when, three weeks later, he suddenly expired from a massive pulmonary embolus as found at necropsy. The cecal measurement at greatest diameter in Fig. 1 is 16.5 cms.

Case 2 (D. C. #199-1-96). An 82 year old white male, admitted February 24, 1955, with an oblique fracture of the shaft of the left femur. After four days in traction, a Kuntscher nail was placed into the femur. The patient did well until the third postoperative day when abdominal distention was

Figure 2

noted. Roentgenograms revealed a bowel pattern characteristic of paralytic ileus. Small bowel intubation, enemas, and Prostigmin® were without benefit. Sigmoidoscopy and a barium enema eliminated the possibility of an obstructive lesion in the colon. A serial roentgenogram taken on the fourth day of the distention revealed the cecum to be markedly dilated. (Fig. 2) An emergency cecostomy was performed under local anesthesia. A 4 cm. tear in the serosa of the anterior taenia, was found at operation. The cecum was decompressed approximately 60 per cent by a mushroom catheter, and the area of the serosal tear was repaired. The patient recovered fully. The cecal size in Fig. 2 is 17 cms. at its greatest diameter.

Case 3 (S. S. #325390). An 85 year old white female was admitted January 11, 1956, from a rest home with marked abdominal distention of three days duration. The admission diagnoses were thrombophlebitis of the left leg, dehydration, cardiac failure, and paralytic ileus. Plain roentgenograms,

Figure 3

barium enema, and sigmoidoscopy confirmed the last diagnosis. Progressive distention continued in spite of intubation of the small bowel and enemas. By the third day of admission, serial films revealed a progressive increase in the size of the cecum. (Fig. 3) An emergency cecostomy was performed under local anesthesia. Two small gangrenous areas were noted in the cecal wall at operation. The fibrers of the anterior taenia were also markedly stretched and the bowel wall was a dusky color in additional areas. Following partial decompression of the cecum at operation and inversion of the gangrenous areas, peristalsis returned within two days, and the patient

made an uneventful recovery. The cecal size in Fig. 3 is 12 cms.

Case 4 (E. K. #14837). A 67 year old physician was admitted for closure of a perforated duodenal ulcer on May 22, 1957. The patient was ambulatory on the second postoperative day. He did well until

Figure 4

the ninth postoperative day, when marked abdominal distention developed. There was no evidence of peritonitis on examination. Despite gastrointestinal intubation and Prostigmin® therapy, the abdominal distention progressed. Sigmoidoscopy and barium enema revealed no colonic obstruction. Serial roentgenograms revealed the cecum to be markedly distended by the fourth day. (Fig. 4) A cecostomy under local anesthesia was performed. The wall of the cecum was dusky in color and very thin. No areas of frank gangrene were noted, however, and there was no serosal tear in this case. The patient made an uneventful recovery. The size of the cecum in Fig. 4 is 21 cms. in diameter.

Case 5 (E. H. #354897). A 60 year old colored female, admitted on March 3, 1958, with severe pneumonia of the right lower lobe, toxic hepatitis, and marked abdominal distention. In spite of nasogastric intubation, the abdominal distention increased progressively. Sigmoidoscopy and barium enema revealed no evidence of mechanical obstruction of the colon. On the third day after admission, a serial roentgenogram revealed the cecum to be markedly dilated. (Fig. 5) A cecostomy was performed under local anesthesia. The cecum at operation was similar to that of Case 4. Following operation, the patient continued to follow a septic course from the

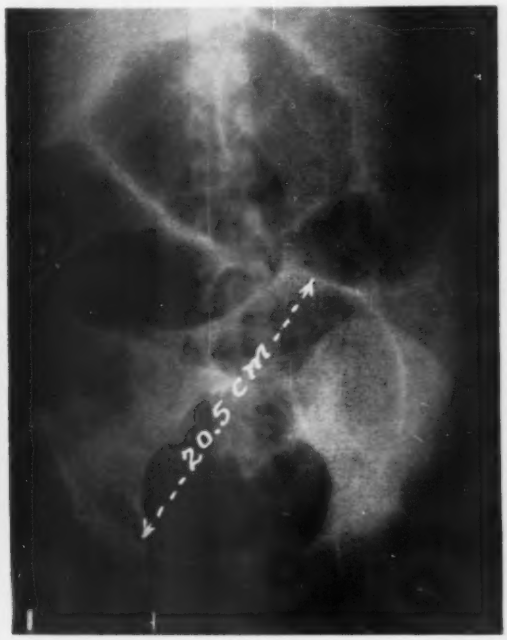

Figure 5

pneumonia and expired two weeks later. At the time of death, the cecostomy tube had been removed, and the distention had disappeared. The cecum in Fig. 5 is 20.5 cms. in diameter.

RESULTS

As noted from the case reports and from Table I, the immediate clinical results after cecostomy were good. In each case, the cecum was decompressed at the operating table, although not completely. In no instance did the cecum perforate following the operative decompression. This has been reported by some observers to have occurred following cecostomy for decompression in cases having a distal bowel obstruction. There were two hospital deaths of the five cases studied, but these deaths were not directly attributable to either the paralytic ileus or the use of cecostomy.

DISCUSSION

There can be no doubt that perforation of the cecum can and does occur as the result of progressive and unrelieved paralytic ileus. When increasing intraluminal pressure develops in the small and large

TABLE I—CECOSTOMY FOR PARALYTIC ILEUS

Case	Age	Clinical Cause of Ileus	No. of Days of Ileus	Pre-Op. Size of Cecum	Condition of Cecum at Operation	Post-Op. Result of Cecostomy	End Result Following Cecostomy
I	69	Trauma	9	16.5 cms.	Perforated	Good	Died of pulmonary embolus 3 weeks postoperatively
II	82	Trauma	4	17 cms.	Serosal tear	Good	Recovered
III	85	Cardiac failure dehydration	3	12 cms.	Areas of gangrene	Good	Recovered
IV	67	Unknown	4	21 cms.	Dusky color	Good	Recovered
V	60	Pneumonia	3	20.5 cms.	Dusky color	Good	Died of pneumonia 2 weeks postoperatively

bowel secondary to a paralytic ileus, the same physical law of pressure transmission applies as when a distal mechanical obstruction is present. In accordance with this law, the tensile strength of the wall of that organ having the widest diameter and the greatest surface area for a given length, will be exceeded first.[4] In the same manner as when a distal obstruction is present, the tension on the wall of the cecum increases not in proportion to its radius, but by the square root of its radius. Diastatic perforation, by definition, refers to a spontaneous rupture of a non-diseased hollow viscus which occurs from a prolonged unrelieved intrinsic lesion in the same viscus, at a varying distance from the undiseased bowel. It is generally accepted that diastatic perforation of the cecum occurs from a combination of five basic mechanisms: (1) ischaemia of the bowel wall; (2) the action of bacterial toxins; (3) a competent ileocecal valve with formation of a closed loop; (4) reduced plasma proteins; and of most importance, (5) the presence of an obstruction distal to the area of perforation.

Of the cases herein reported, there was no instance of distal mechanical obstruction. Perforation of the cecum occurred in one case, however; the taenia of the cecum was split in another; areas of gangrene in the cecal wall were found in a third case; and the walls of the cecum were dusky in color in the remaining two cases. It seems reasonable, therefore, to assume that paralytic ileus may be added as a causative factor to the current definition of diastatic perforation, and may also be considered to be a sixth mechanism in the production of this type of perforation.

It is a difficult problem to determine when operative decompression of the markedly distended cecum is necessary in a case with severe, progressive, paralytic ileus. Lowman[3], in his study of cases with distal obstructions of the colon, has proposed an empiric cut-off point of cecal distention at 9 cms. as the point at which perforation is impending. In this type of case, the decision as to when operation should be performed presents little difficulty, because in every case of large bowel obstruction a proximal decompression procedure is indicated as soon as the diagnosis is made.

Decompression of the cecum has no place in the treatment of paralytic ileus except in the selected type of case herein reported in an attempt to prevent perforation of the markedly over-distended cecum.

The width of cecal distention of the cases in Table I and as depicted on the reproduced roentgenograms in Figures 1-5 was measured in centimeters across the greatest transverse diameter of the cecum with the patient in the supine position at a focal length of 40 inches. The sizes of the distended cecums ranged between 12 cms. and 21 cms.

Although cecal measurements in this range are causes for concern, the chief factors to be considered in deciding for operative decompression of the cecum for paralytic ileus are as follows: (a) progressive enlargement of the cecum shown by daily roentgenograms; (b) failure of decompression of the distended cecum by intubation and drug therapy; and (c) a duration of distention over three days with the widest diameter of the cecum measuring 12 cms. or more.

It should be emphasized that the additional morbidity of cecostomy in the ill patient, when performed under local anesthesia, is negligible when compared to the disastrous results of spontaneous perforation of the cecum.

SUMMARY

The mortality rate of reported cases having a perforated cecum is in the range of 75 per cent despite all medical and surgical therapy. That the cecum can perforate from a paralytic ileus is borne out by the case reports presented. Five cases under-

went emergency cecostomy for impending perforation of the cecum secondary to a paralytic ileus. The results are tabulated in Table I. It is proposed that paralytic ileus be recognized as an additional mechanism in diastatic perforation of the cecum. The factors to be considered as indications for surgical decompression of the cecum in cases of paralytic ileus are discussed.

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Air Conditioning Is Healthy

Air conditioning—custom tailored climate—means much more than mere cooling. Properly used, air conditioning implies year-round modification of humidity, air currents, and dust content of air as well as combating cold or heat, said an article in the July issue of Today's Health, a publication of the American Medical Association.

According to the author, J. C. Furnas, Lebanon, N.J., air conditioning "rescues hay fever sufferers from airborne pollen and keeps heart patients at recommended even, moderate temperatures." It can "be distinctly 'good for' the healthiest . . . because it takes much of the curse off the bullying heat and smothering humidity of our temper-gnawing, energy-sapping summers."

In order to derive the full benefits from air conditioners, people must learn to keep windows and doors shut. The air conditioner is designed on the assumption that it alone will be processing your indoor climate. "It needs no amateur help."

Most people agree that air conditioning is helpful, but ideas of temperature comfort can also vary among individuals. "Humidity itself rules out any possibility of settling on an 'ideal temperature' for human beings."

A housewife who feels all right at 75 degrees with 50 per cent humidity will swelter if it goes to 80 per cent. Drop the humidity to 20 per cent and she will be chilled. This is a sound reason for keeping the doors and windows shut. "Letting in untreated outside air destroys the humidity-temperature balance on which comfort depends."

Considerable debate still exists over the proper setting of the thermostat. In warmer parts of the country air-conditioned families often go for the fixed-level theory, ignoring outdoor conditions. The author recommends, however, a 15 degree spread between the inside and outside temperature. "Thanks to the humidity angle, this 15 degree spread gets practically all the potential comfort out of home air conditioning."

With an efficient air conditioner keeping interior humidity at the proper 40-50 per cent level, even 80 degree temperature indoors to match 95 degrees outdoors will not be at all oppressive.

"'It's not the heat; it's the humidity' may be trite, but it's the backbone of sound air conditioning."

National Medical Foundation for Eye Care

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WE BY NATURE tend to shy away from the discussion of subjects that are unpleasant. Up until two years ago this had been the philosophy of ophthalmology in socio-economic medicine. By that time it had become quite evident to even the most lethargic in our profession that the practice of medicine in our chosen specialty was under vital attack through propaganda and legislation by a non-medical group. Early in 1955, the Section on Ophthalmology of the American Medical Association appointed a committee to make a study of this subject in detail. The report of this committee was rendered at the Atlantic City meeting of the American Medical Association on June 8th of that year. On the basis of this report several important and basic resolutions were adopted and approved by the House of Delegates. These resolutions were the subject of my discussion in December, 1955, when it was my privilege to address your society at its annual meeting in Richmond.

Several important events have occurred since that date. The remainder of this talk will be an attempt to elucidate the most outstanding of them.

The scientific field of ophthalmology has always been covered at the national level in an outstanding manner by the Section of Ophthalmology of the American Medical Association, the Academy of Ophthalmology and Otolaryngology, the American Ophthalmological Society, and the Association for Research in Ophthalmology. These organizations by the very nature of their charters, and rightly so, deal exclusively with scientific matters. Modern medicine is an interdependent blend of science, psychology, sociology and economics. If we fail to meet the changing times in any one of these spheres, then our freedom to advance our science and render a greater service to the public to which we are dedicated is seriously jeopardized. In short, gentlemen, what would it profit us as a profession or the public interest in particular to spend 100 per cent of our time in improving our scientific knowledge and to neglect the socio-economic sphere while organized optometry through its state and federal legislative onslaughts strips us of the right to use such knowledge to the best interest of the public. Prior to the organization of the National Medical Foundation for Eye Care at the Academy meeting in Chicago in October, 1956, there was no organization in existence to deal with these vitally important socio-economic problems although the need for such had existed for a long time.

The American Optometric Association at its Seattle, Washington, meeting in June, 1954, finally became bold enough to publicly state its official policy and I quote, "It is the stated policy of the American Optometric Association in convention assembled that the field of visual care is the field of optometry and should be exclusively the field of optometry. Throughout the years the optometry laws of the several states have granted exemptions to certain groups and classes. Resolved that the individual state associations are recommended to make serious study of the optometry laws prevailing in their states to the end that exemptions be restricted, limited and ultimately eliminated."

Optometry had been pursuing a course in that direction for several years prior to making this announcement. The only surprising thing about this is that they were willing to admit their objectives, something they had heretofore made considerable effort to conceal. These resolutions fulfill a useful purpose insofar as the medical profession is concerned because they served to dispel any remaining doubt from the minds of some as to the intent of official optometry.

Although the National Medical Foundation for Eye Care officially had its genesis at the Academy meeting in Chicago in October, 1956, the idea for such an organization was born at the American Medical Association meeting in Atlantic City in June, 1955, when it became apparent that none of the existing ophthalmological societies was equipped to deal with this dangerous problem. In setting up the Foundation it seemed logical to utilize the enormous experience that the original American Medical Association committee has acquired on this subject. Therefore, the original Board of Trustees was comprised largely of the members of that committee and they are: Dr. Alson E. Braley, Iowa City, Iowa; Dr. Paul A. Chandler, Boston, Massachusetts; Dr. Frederick C. Cordes, San Francisco, California; Dr. J.

Presented before the Virginia Society of Ophthalmology and Otolaryngology, Roanoke, December 6, 1957.

Spencer Dryden, Washington, D. C.; Dr. Harold F. Falls, Ann Arbor, Michigan; Dr. Everett L. Goar, Houston, Texas; Dr. Erling W. Hansen, Minneapolis; Minnesota; Dr. Charles E. Jaeckle, East Orange, New Jersey; Dr. A. D. Ruedemann, Detroit, Michigan; Dr. Ralph O. Rychener, Memphis, Tennessee; Dr. Barnet R. Sakler, Cincinnati, Ohio; Dr. Edwin Forbes Tait, Norristown, Pennsylvania; and Dr. Derrick Vail, Chicago, Illinois.

Under the most capable chairmanship of Dr. Ralph O. Rychener, this board has had several meetings during the past year to conduct the enormous volume of business of the Foundation. These meetings usually last two days and the attendance has been excellent. When men of this calibre are willing to give so much of their time and talents and often travel great distances on behalf of the Foundation, it fully demonstrates that in their minds the future of ophthalmology is in jeopardy. The objectives of the Foundation have been published in its basic brochure from which it is clear that its primary objective is to inform the profession and the public on the essentials of good medical eye care.

The Foundation has also published a pamphlet titled "What Is An Ophthalmologist?" This contains a definition of an ophthalmologist, an optician, and an optometrist. It is evident that there existed a great need for this kind of information since a quarter of a million of these have already been requested and distributed. The third and most important publication thus far is the monograph titled, "Medicine, Optometry and Public Welfare." This constitutes primarily a report to the medical profession but is designed to provide basic information in documented form for use by anyone who is concerned with the special problems or issues involving optometric and ophthalmological relations. This first major report covers three topics: 1. A discussion of the reasons why the teaching of optometrists by medical men is unethical; 2. A review of recent public activities and pretensions of optometry; 3. A discussion of the subject of patient referrals by optometrists.

The Foundation has in preparation further major reports on such topics as: 1. The history and present status of optometric education; 2. A study of the institutional accrediting agencies, particularly in connection with schools of optometry; 3. A history of refraction and the evolution of optometry as a technical group; 4. A guide for physicians in their relations with optometrists; 5. A study of ancillary personnel in the ophthalmological field; 6. A summary of union plans for eye medical care.

In addition to these formal publications, the Foundation has issued several news letters to the profession to keep our members and prospective members informed of the Foundation's progress and of the special situations with which we have been dealing. One such special situation was the effort of organized optometrists in the South to persuade the Southern Regional Education Board that it should support proposals to provide more educational facilities for the training of optometrists in the South with subsidies from public funds. A request was made by the Regional Board to the American Medical Association for a recommendation on this important matter. This request was in turn referred to the Foundation and an exhaustive and factual study of this question and the existing situation was prepared and widely circulated through the South among medical and related groups.

This was directly instrumental in stimulating many medical and other agencies in the South to endorse the Foundation's views and to auger the futility of the proposals which were made by official optometry to the Southern Regional Education Board. It is indeed a pleasure to be able to report that the Regional Board, on September 21, 1957, unanimously voted to act in accordance with the Foundation's recommendations.

To give the Foundation a broader representation, to provide opportunity for greater numbers of its members to participate in its affairs and to give us eyes and ears in every part of our country, the Foundation has organized a group of some one hundred and fifty key men from every state in the Union. These key men are rendering a vital service to the Foundation, particularly in dealing with legislative matters.

A classical example of this occurred this past summer when those men rendered such valuable service in helping the Foundation develop its opposition to Section 5 of H.R. 6719 before the Veterans Affairs Committee of the United States House of Representatives. This legislative attempt by optometry is so typical of its tactics that it justifies some detailed discussion.

The so-called rider method of legislating has long been used by certain groups to pass bills that will not stand on their own merits. The technique is simple. Select a popular bill that is sure to be enacted and tack on a rider or section containing the desired proposal in the hope that it may ride through unnoticed or be steered through by a chosen com-

mitted legislator. Optometry has had considerable experience and on occasions been successful in this type of legislating.

Using this technique in 1950, optometry slipped a clause in the Social Security Act, Public Law 734, which made it binding on the states to accept the opinion of optometrists not only as to the existence of blindness and its cause but also whether or not it may be alleviated by medical or surgical treatment. As a result of this legislation many who could be rehabilitated by surgery are unwittingly being paid a blind pension. Once on the statute books, it is exceedingly difficult to remove. This is another of the objectives of the Foundation.

Now, getting back to H.R. 6719, this is a very popular and much needed piece of legislation. It is designed to increase the pay of physicians and dentists in the Veterans Administration. It is almost certain to pass. Optometry, through its lobbyists, has tacked on a rider known as Section 5, which simply states that the word "optometrist" would be included in each and every place where the words "physician" and "dentist" appeared. Hearings were held before the subcommittee of the Veterans Affairs Committee on June 12, 1957. The Veterans Administration, which has to administer this law, testified against Section 5 on the grounds that they had no difficulty in obtaining all the optometrists they needed at the present pay schedule. Dr. Jaeckle and I presented the Foundation's views in opposition to Section 5 on the obvious grounds that optometrists were not professional equals of physicians, could not render a comparable service and therefore not entitled to comparable standing. To force the Veterans Administration to accept this equal status would tend to drive physicians out of the Veterans Administration instead of attracting more into it, thus defeating the very purpose of the bill. We also pointed out that to increase the pay by 300 per cent for one group of technicians from among the many groups employed by the Veterans Administration, who often render a much more needed service, would create a very undesirable morale problem among the more important medical and dental technicans.

After hearing the testimony the subcommittee, made up of seven representatives, voted to remove Section 5. A few days later the full committee of twenty-five representatives met and broke precedent and reinstated Section 5 into the bill by overriding the recommendations of the subcommittee, who had heard all the testimony. In the closed session of the full committee one committed legislator was able to influence the votes of enough of those eighteen members who had heard no testimony to reinstate Section 5 in the bill. This points up the problem we have to face and gives our all important key men another chance to exercise their new-born strength since the bill will become active again with the opening of the Second Session of the 85th Congress on January 7, 1958.

Proposed changes in optometric laws are introduced in many states and the District of Columbia every year. These legislative sputniks may differ slightly in their wording but it is of interest to note that they all fall within the pattern of the resolution of the American Optometric Association as previously quoted. They usually begin by declaring optometry to be a learned profession and proceed to define optometry to include everything from reading a Snellen chart to orthoptics plus a few vague and indefinable terms such as "all preventive or corrective optometric methods and analyses of ocular functions." After this sphere of optometry has been defined to include every non-surgical procedure normally performed in an ophthalmologist's office, these legislative proposals will then exempt physicians; however, in some cases only certain classes of physicians, but in no case will it exempt the physician's ancillary personnel.

Under such a law the physician's nurse would be practicing optometry if she took a visual acuity or did a visual field and would be subject to prosecution by the Board of Optometry. Orthoptic technicians and those who assist physicians in contact lens work would likewise fall into this trap. This clearly illustrates what the American Optometric Association meant by "limiting the exemptions". Once this has been achieved then they can "ultimately eliminate the exemptions". This of course means that the physician will no longer be allowed to practice medical ophthalmology including refractions.

When one pauses to contemplate that the proponents of this kind of legislation are financed by an annual income exceeding one million dollars derived from a check off of one per cent at the wholesale level on the optical material they dispense, this picture becomes alarming. Is there any wonder why so many ophthalmologists across the entire country have come to recognize this menace to the future of their profession. When Dr. Rychener so clearly stated this situation before some 600 members at the Academy meeting in Chicago in October, 1956, better than ninety per cent of them became charter members of the National Medical Founda-

tion for Eye Care forthwith. This membership has grown to some 1700 members during the past year. Although this is a very impressive beginning, the Foundation must double its membership this year in order to fulfill its mission. This should not be difficult from a potential membership of some nine thousand. It can be done if every present member will spread the message to his colleagues because it has been demonstrated time and again that we only need to get a hearing for our case to gain a convert to our cause. This is equally true on the floors of our state legislatures and in Congress and since our objectives and the public welfare are the same we cannot fail in this cause.

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Executives and Nonexecutives and Vascular Disease

Being an executive doesn't necessarily mean that you have high blood pressure or hardening of the arteries. In fact, a recent five-year study of more than 2,000 individuals showed that executives had less hypertension and arteriosclerosis than did nonexecutive office workers of comparable sex, age, and work environment.

The study, reported in the June 19 Journal of the American Medical Association, was made by Dr. Richard E. Lee, New York Hospital-Cornell University Medical College, and Dr. Ralph E. Schneider, New York University College of Medicine.

The authors defined an executive as a person dealing with policy formation and implementation. The 1,171 male executives studied ranged from "top executives" (board directors, corporate officers, and general managers) to "minor executives" (division heads, auditors, and others of lesser rank than department heads).

Also studied were 1,203 nonexecutives, of whom 563 were women. They included stenographers, secretaries, clerks, assistant supervisors, and supervisors.

Of the executives, 12.3 per cent had some type of high blood pressure, as did 15 per cent of the male nonexecutives over 40 years of age. Arteriosclerosis of some type was found in 7.8 per cent of the executives and 15.4 per cent of the nonexecutives.

No significant relationship was found between the incidence of heart attacks and the level of business responsibility. Heart attacks occurred in 3.7 per cent of executives and 5.1 per cent of the nonexecutive males over 40.

Among the reasons suggested by the doctors for the less than expected rate of executive vascular disease is that these men have learned the value of "escape valves" and the need for outside avenues of expression, such as hobbies.

"The lack of an increased incidence of hypertension among executives as a 'stress' phenomenon further emphasizes the importance of reaction by the individual to his environment rather than the physical and intellectual demands of that environment per se."

"Stress is a relative and a subjective matter. When the inherent capacities of the individual to perform fail to measure up to the demands of his world, the harmonious balance between the subject and his environment is disrupted and a stress reaction takes place."

This occurs, "regardless of whether the factor in the external environment is a speedily approaching deadline for a frantic technical assistant or the threatened failure of a large business venture for the director in charge."

In conclusion, the authors wondered if "at least a part of the recent emphasis on dangers of executive life to the vascular system may be based more on knowledge of the exceptions rather than of the rule."

Myelocytic Leukemia

Tem Therapy of 335 Cases

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THE LEUKEMIAS are among the most responsive of all neoplastic diseases.[1] The 335 cases of myelocytic leukemia on triethylene melamine therapy tabulated in this review of the medical literature for the years, 1949-56, do not cover the subject, for 11 of the 60 references do not give the number of patients treated. The number of recorded remissions also exceeds the 196 indicated in Table I, for 16 of the clinical reports fail to state the number of remissions observed. When the data are calculated on the number of articles which give both the number of patients treated and the remissions noted the rate is 66% on TEM therapy. This is a little lower than that recorded in 471 cases of lymphocytic leukemia.[1]

TABLE I

TEM THERAPY OF MYELOCYTIC LEUKEMIA

No. of Refs.	No. of Cases	Chronic Cases	Acute Cases	Remissions	No. of Refs. Not Giving Rem.	Remission Rate
60	335	290	44	196	11	66%

Chronic myeloid leukemia was much more responsive than acute myeloid leukemia to TEM management, although the latter had more remissions than acute lymphocytic leukemia. Not all clinical reports differentiated between the acute and chronic forms.

Table II gives a more detailed account with brief notations on the degree of remissions observed on TEM therapy.

The original literature has been made available by the National Library of Medicine, and the libraries of Furman University and the Greenville General Hospital.

TABLE II

MANAGEMENT OF MYELOID LEUKEMIA WITH TEM

Cases	Acute	Chronic	Remissions	Comments on Therapy	References
62	....	62	40	Good clinical and hematologic remissions	Heilmeyer, 1954
29	3	26	25	17 Good, 6 fair hematologic remissions in chronic. 2 fair in acute	Bond, 1953
17	....	17	7	Good remissions to 8 months	Bond, 1952
13	....	13	9	7 of 8 given TEM, orally had remissions to 10 months, 2 of 5 given TEM intravenously had remissions to 3 months	Karnofsky, 1951
10	....	10	....	Good but brief remissions	Ohta, 1954
18	9	9	6	Good remissions of 2 weeks to 8 months in chronic. Some remissions in 9 acute for 22 days	Meyer, 1952
9	....	9	6	Clinical and hematologic remissions of 2 weeks to 14 months	Ritz, 1952
9	9	....	....	Brief remission in 7 of 12 myeloblastic and lymphoblastic leukemias	Beyers, 1952
8	2	6	8	2 Complete clinical and hematologic remissions and 4 partial to 2 years in chronic. 2 acute had some remission	Marmont, 1954 (2)
8	....	8	6	Good remissions	Kravitz, 1952 (1)
8	....	8	6	4 Excellent, 2 fair responses	Kravitz, 1952 (2)
8	....	8	6	3 Remissions of 6 weeks to 6 months, 1 of 6 months to 1 year, 2 remissions of over 1 year	Gillhespy, 1954
8	....	8	5	1 Good, 4 fair hematologic remissions	Gigante, 1954
7	....	7	5	2 Remissions for 20 days, 3 for 30 days, but 1 had severe bone marrow depression	Yanguas, 1955
7	....	7	4	Improvement	Schwartz, 1952
7	....	7	2	Fair remissions	Paterson, 1953
7	....	7	....	Some remissions but not as good as in lymphocytic	Haehner, 1954
7	7	....	1	Slight remission	Rundles, 1952
6	....	6	6	Remarkable improvements	Milic, 1954

1. Sampey, J. R., J. So. Car. Med. Assoc. 53, 202 (1957); ibid. 54: 53 (1958); Am. J. Surg., In Press.

TABLE II—Continued

Cases	Acute	Chronic	Remissions	Comments on Therapy	References
6	....	6	5	1 Notable improvement, 3 good hematologic, 1 fair	Lenti, 1954
6	....	6	4	Some remissions in 4 cases	Rottino, 1952
5	....	5	5	Good remissions for 2 months	Garciga, 1953
5	....	5	....	Good response	Marmonte, 1954
5	....	5	4	1 Excellent, 3 good remissions	Arrau, 1955
4	....	4	3	Some improvement	Hall, 1952
4	....	4	3	Brief hematologic remissions	Rhoads, 1950
4	4	....	....	Poor response in acute myelomonocytic leukemia	Silverberg, 1952
4	1	3	....	Response in myeloid not as good as in lymphoid	Winkler, 1954
4	2	2	2	Not as good remissions in chronic myeloid as in lymphoid, and no response in acute myeloid leukemia	Asua, 1955
3	....	3	3	Satisfactory remissions	Cavit Sokmen, 1954
3	....	3	3	Fair remissions not as good as nitrogen mustard	Colarusso, 1952
3	2	1	3	Subacute had complete remission, chronic had partial	Dubois-Ferriere, 52
3	....	3	....	Little improvement	Hansen, 1952
3	....	3	3	Good remissions	Lenti, 1953
3	2	1	....	Little improvement	Storti, 1954
3	1	2	2	1 Complete, 1 partial remission in chronic, and no response in acute	Wright, 1955
2	....	2	2	Fair remissions	Bock, 1953
2	....	....	....	Appearance of mitosis in blood in therapy	Brugsch, 1954
2	2	....	2	Fair remissions in subacute cases	Dubois-Ferriere, 1953
2	....	2	1	Fair response	Haga, 1953
2	....	2	2	Brief clinical and hematologic remissions	Linke, 1953
2	....	2	2	Good remissions, better than with urethan or x-ray	Neumann, 1952
1	....	1	1	Partial remission	Klima, 1953
1	....	1	....	Early resistance developed	Lattanzi, 1949
1	....	1	....	Fatal bone marrow depression developed	Slipyan, 1953
1	....	1	1	Hematologic remission for 1 month	Stich, 1955
1	....	1	1	Fair remission	Wright, 1952
1	....	1	1	Fair remission	Wright, 1950
1	....	1	1	Some improvement	Koyama, 1953
....	....	....	....	Fair remission in 52 cases Hodgkin's disease and chronic leukemias	Alpert, 1952
....	....	....	....	TEM considered a dangerous drug	Ceresa, 1954
....	....	....	....	Better remission with lymphatic leukemia	Introzzi, 1953
....	....	....	....	34 Hodgkin's disease and leukemias. Some clinical response in myeloid leukemia	Karnofsky, 1953
....	....	....	....	Some remission in 10 of 16 chronic leukemias	Meyer, 1951
....	....	....	....	Some response in both chronic and acute cases	Pavlovsky, 1953
....	....	....	....	Best results with chronic myeloid leukemia out of 75 cases of lymphomas and leukemias	Romeo Orbegozo, 1953
....	....	....	....	Good remission in chronic leukemias	Rosenfeld, 1955
....	....	....	....	Little effect on chronic or acute	Shimkin, 1955
....	....	....	....	Chronic responded but acute was contraindicated	Wintrobe, 1954
....	....	....	....	Brief, partial remissions in chronic	Rosenthal, 1952

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The National Foundation

The National Foundation for Infantile Paralysis has dropped the reference to a specific disease in its title and will be known in the future as The National Foundation.

Projected plans center on the development of an organized voluntary force in the fields of medical research, patient aid, and professional education, flexible enough to meet new health problems as they arise.

The first new goals will be research and eventually a patient aid program in arthritis and congenital malformations. Virus research will be continued and expanded as will the investigations currently being conducted into the disorders of the central nervous system.

No attempt will be made to duplicate the work of other voluntary agencies, Basil O'Connor, President of the organization said, although as scientific breakthroughs occur they will be pursued wherever they lead, with the general objective the improvement of man's health.

All five areas of the expanded program will be financed through the traditional March of Dimes conducted annually in January.

The new program was adopted after five years of exhaustive investigation of areas of need in the health field and careful assessment of the strengths of the National Foundation that could be applied to other problems. Conferences were held with medical, civic and governmental leaders, as well as with representatives of National Foundation Chapters from all regions of the country. The Board of Trustees approved the program on May 28, 1958.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Safety Services in the Event of a Radiation Incident

(Knowledge every physician should have)

Although the age of the atom is in its infancy, man already is realizing the tremendous benefits from the peace-time applications of this vital new force. Nuclear energy has made possible rapid advancements in medicine, agriculture, industry, and basic research, and its uses are being expanded and improved constantly. Atomic energy has been compared with electricity or fire and this comparison is useful in a discussion of safety. Both electricity and fire are useful servants but they can be lethal unless proper precautions are taken. The same is true for nuclear energy and man must learn to use this additional power with safety. As a natural outgrowth of increased participation in programs calling for the use of atomic energy by both public and private organizations, more nuclear materials are being handled by more people throughout the country. Attention has been given to training these people in the proper handling of the materials with which they are dealing.

The United States Atomic Energy Commission takes great pride in its safety record and the Commission expects to keep its fine record intact. Because the nuclear energy field is broadening and because the Commission is charged with assuring protection for the public against radiation, the agency has launched a program to acquaint state and local officials with the radiological services it is prepared to offer in the event of a significant nuclear incident.

Such an incident may result from losing or misplacing an isotope or other radioactive material, from the capsule coming apart and spreading the radioactive material, from accidents in transportation causing the radioactive material to be spread on the highway, to be carried to water, to pollute the air, or to contaminate food. Another incident might be the loss of a nuclear weapon from an aircraft, resulting in its fall to an area with or without explosion. Such an incident occurred in South Carolina. Reactors may cause incidents as the result of fire or "run away"; in the latter case pollution of the air may follow. England had a reactor incident that spread contamination over an area of 150 miles.

The manager of the Oak Ridge Operations, S. R. Sapirie, says: "Because of the many safeguards which have been established by the State and Federal governments, we believe that the probability of a serious incident involving radioactive materials or radiation is remote. However, we recognize our responsibility to ameliorate any possible hazard to the health and safety of the public."

Virginia has 104 licensees for the use of radioactive materials. Hospitals are largely in the majority of those using these materials. There is one reactor for study and research in medical and other sciences in the State, at the University of Virginia. There is one manufacturing firm in Lynchburg licensed to handle radioactive materials. In every instance the Atomic Energy Commission distributes radioisotopes only to personnel who are thoroughly trained in the use and handling of such materials and can thereby exercise control and ensure that proper safety methods are observed.

In the event of a nuclear incident there would be need for specialized personnel who are equipped to monitor radioactive materials, to inform local officials and physicians if any hazard exists, and to suggest steps necessary to protect the public. The Atomic Energy Commission has for some time had in readiness such experts who can at a moment's notice go to any locality needing them. The Commission can send such help only on request and the request should be made through proper local or State officials. The State Department of Health is one such State group through which assistance may be requested. The teams, which would be furnished immediately on completion of such request, would include scientists, engineers, and physicians, as appropriate. These experts would be drawn from the staffs of the Commission and its major contractors.

The Atomic Energy Commission has divided the country into several areas. Virginia is in an eight-state area embracing Arkansas, Kentucky, Louisiana, Mississippi, Missouri, Tennessee, Virginia and West Virginia. The services of the Oak Ridge Operations, with headquarters in east Tennessee, have been made available for this area.

It is probable that in the event of a radiation

incident any private physician might be called on for his services or advice. It is, therefore, highly important that all physicians be prepared to render assistance and to know where to request special assistance. In case of a radiation incident the following should be done:

1. Keep people away
2. Put out fire
3. Take care of the injured
4. If a liquid has been released, try to dam it and prevent it flowing; particularly, keep it out of streams
5. See that the Atomic Energy Commission is called if it is apparent that such help is needed
6. Call them through official agencies of the State; the State Department of Health is one such agency. Telephone Richmond, MIlton 4-4111, extension 2863, the Commissioner; 2865, Health Education; 2874, Local Health Services; or 2377, Sanitary Engineering.

It should be remembered that the team from the Atomic Energy Commission can come only to render assistance, to help, and that, in themselves, they have no legal authority or police powers. If such authority is needed to control the situation, it must be supplied locally through sources that have been granted such powers.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	July 1958	July 1957	Jan.-July 1958	Jan.-July 1957
Brucellosis	2	5	13	17
Diphtheria	0	4	13	12
Hepatitis	24	18	163	286
Measles	1289	283	20701	4609
Meningococcal Infec.	9	8	56	47
Meningitis (Other)	13	101	115	200
Poliomyelitis	16	10	26	26
Rabies (In Animals)	11	32	200	209
Rocky Mt. Spotted Fever	8	6	18	22
Streptococcal Infec.	281	308	4680	4550
Tularemia	4	0	25	19
Typhoid Fever	2	6	17	26

Heart Sounds Over Telephone

A new device that accurately and easily transmits heart sounds and electrocardiograph readings over the telephone is described in the July 26 Journal of the American Medical Association.

The new apparatus "seems to solve most of the problems" which have interfered with telephone consultations between heart specialists, according to Dr. E. Grey Dimond, Kansas City, Kan.

Practical usefulness of telephone consultation previously has been limited by the bulkiness of the equipment, by the necessity of some electrical connection between the patient, the electrocardiograph, and the telephone, and by the need for special permission from the telphone company for connection and transmission. The new device, developed at the cardiovascular laboratory of the University of Kansas Medical Center, overcomes these problems.

The five-pound transistorized unit is attached directly to the patient by standard lead wires and placed adjacent to the mouthpiece of the telephone. The electrocardiograph signal is picked up by the phone and no wire connections is needed. At the receiving end, a similar unit takes the information from the telephone and carries the signal to any standard electrocardiograph machine. In addition, with a standard heart-sound microphone heart tones and murmurs can be transmitted by the apparatus.

Mental Health . . . .

BEVERLEY ROSENBAUM

Rehabilitation of the Mentally Handicapped

Rehabilitation of the mentally and emotionally disabled is essentially a new trend in general social action and public health. Two recent developments were responsible for this increased interest: the influence of the war, and the enactment of the Barden-La Follette amendment to the Federal Vocational Rehabilitation Act in 1943. Prior to this amendment, the Federal program did not make provisions for mental and emotional disorders as a separate disability. Clients were accepted on the basis of a physical disability only. Therefore, the only way possible to receive services for a mental or emotional handicap was if it were secondary to a physical disablement.[6]

DEFINITION OF TERMS

The term "mentally handicapped" as referred to in this paper shall mean those persons who are either mentally retarded or mentally deficient.

It is necessary here that we differentiate between the terms mental retardation and mental deficiency, for these are not synonymous terms. Doll defines mental deficiency as: "(1) social incompetence, (2) due to mental subnormality, (3) which has been developmentally arrested, (4) which obtains at maturity, (5) is of constitutional origin, and (6) is essentially incurable".[10] This intellectual defect is a reflection of an impairment of the central nervous system, which is essentially incurable. It will be a condition existing either from birth or shortly thereafter, and one which will always require assistance and supervision.

Mental retardation, on the other hand, refers to individuals who, for temporary or long-standing reasons, function intellectually below the average of their peer groups, but whose social adequacy is not in question; or, if it is in question, there is the likelihood that the individual can learn to function independently and adequately in the community.

Thus, we can distinguish between the two terms by saying that the mentally retarded individual only requires *temporary* specialized assistance, whereas the mental defective will always require it. This distinction is important in terms of job placement, as we shall later see.

ELIGIBILITY

The determination of eligibility particularly requires the services of qualified and skillful psychological and medical examiners who must provide the agency with objective evidence by which to show that without our efforts the individual would be unable to adjust to an adequate job situation. It is also part of the examiners' function to determine why the individual does not or probably will not adjust—why he can not get an adequate job or hold one after he gets it.

Some kinds of evidence that show that the individual needs our assistance is shown in the following examples:

1. The individual cannot get an adequate job. He does not know how and where to apply and may not know how to reach places of employment. Perhaps he is timid and fearful and unable to express himself clearly. He will not make a good impression on a prospective employer. He may need help in filling out the application forms and be afraid to ask for assistance in completing them. Once he has had such an experience, he may avoid the ordeal entirely and cease trying to find a job.

2. Assume that the individual has obtained a job. He has difficulties in learning what is expected of him because he may not understand oral or written directions. He may have difficulty in comprehending the special trade vocabulary, or in remembering directions and the sequence of directions. He has not acquired basic social skills and attitudes that are necessary for success on a job, such as habits of promptness, neatness, courtesy, and respect for his employer and his fellow employees. As a result of his short-comings, the individual has also become discouraged, feels inadequate, and is less successful than he otherwise could be. He is discharged, or he quits, perhaps after only brief acquaintance with the situation which to him appears exceedingly trying and complex.

3. The individual has genuine difficulties in learning the job operations. For this reason, he may

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Approved for publication by Commissioner, Department Mental Hygiene and Hospitals.

need to have more time spent with him in actual demonstration of processes. Perhaps the job requires some small academic function of which he is not capable, or perhaps the individual has some manipulative handicap.

As a result of these and other conditions which constitute a mental handicap (which may be determined with the client's personal history and interview, and supplemented by tests and inventories), the individual may find it too hard to obtain an adequate job or to hold a new job in a strange situation without special preparation, guidance, and supervision.[2]

FEASIBILITY

Frequently clients are eligible for vocational rehabilitation services, but not feasible. The Vocational Rehabilitation Manual states: "It should be recognized that an individual may meet the criteria of eligibility, but because of circumstances inherent in the individual or available services, it is not possible to prepare the individual for employment. . . . After eligibility and practicability have been established, all rehabilitation services needed by the individual should be provided."

Therefore, for an individual to be eligible and feasible on the basis of a mental handicap for vocational rehabilitation, it must be demonstrated in competent psychological and medical examinations and evaluations that: (1) an inadequacy of intellectual functioning has been instrumental in producing a retardation of mental growth which is manifest in failure to perform above the level of a child in important aspects of education and life; (2) this inadequacy of intellectual functioning is neither so severe nor so inclusive as to eliminate the mental and personality resources necessary for successful vocational rehabilitation or to prevent their mobilization (classification).[2]

THE COUNSELOR'S ROLE

In the development of a vocational plan for the mentally handicapped, all of the counselor's skills come into play. He must have a sympathetic understanding of these individuals, because they are quick to sense a superficial interest or an irritation arising from their apparent lack of comprehension. He must have a thorough knowledge of his client's attitudes toward seeking employment, and a thorough knowledge of employers' attitudes regarding the employment of these individuals. Most people need some stimulation and encouragement in looking for work; this is particularly true of the mentally handicapped. Some of them have met failure so often that they have little self-confidence. Most of them feel pretty insecure in being able to get a job when they want one so very much. The counselor must always be aware of this need for encouragement when working with the mentally handicapped.

Vocational and educational counselors are equipped by training and experience to help their clients to an understanding of and decision about their own work capacities in relation to realistic and satisfying job goals. Counseling takes into consideration not only the client's real or potential work abilities and interests, but also the specific requirements, mental, physical, and emotional, of types of employment. Counseling also considers the availability and trends of availability of various types of employment in a given labor market. Thus, a client may be helped to redirect his efforts in a field closely related to his chosen one if it is suitable for him and if his chosen one offers neglible or very limited employment possibilities in the area where he wants to work.

Vocational counseling is helpful to people who are confused about their own job goals because they lack knowledge either of the rich variety of vocations available to people who need information about the preparation needed to enter or advance in a particular field and for those whose present kind of work is dissatisfying or medically contra-indicated. It is also frequently indicated for people in businesses of their own if they have had little or no previous experience with business methods and practice.[12]

SELECTIVE PLACEMENT

In counseling an applicant about a job, the things which may seem relatively simple and obvious to the average individual will need careful explanation with the mentally handicapped.

If the counselor knows his client well, and knows his strengths and weaknesses, he will be in a better position to find suitable employment for him. For example, if his client is an extreme mental defective, and the counselor is having difficulty placing him, perhaps he can find work for him in a sheltered workshop situation, where he will not have to work in competition with those around him. And too, if the counselor himself is convinced that his client can do a particular job, he may be able to convince a reluctant employer to hire him—if not permanently, at least on a trial basis.

If a client is placed on a seemingly satisfactory job from the viewpoint of skills and job information

and fails to make the grade, then personal adjustment training may be required. At the present time, however, a few localities have set up personal adjustment training facilities which can serve adequately the mentally handicapped.

EMPLOYMENT

As in the vocational rehabilitation of the physically handicapped, employment in a remunerative occupation is the main goal in the vocational rehabilitation of the mentally handicapped, too.

The question might arise as to how we as counselors can sell the mentally handicapped person to the employer. First and foremost, the employer must be informed of the assets and skills of the mentally handicapped individual, and also of his limitations. It is necessary to use a positive approach with the employer by describing the demands of the job and the clients' ability to meet those demands. However, it is also necessary to inform the employer about the limitations of the client to forestall the imposition of new and complex demands and to warn the employer against promoting the client into kinds of work for which he is not suited. In all cases, it is necessary to emphasize to the employer that the mentally handicapped have the capacities to do the job.

In a study made on 55 women in Minneapolis, 35 were found to be gainfully employed in addition to 13 who were housewives, 5 who were not located, and 2 who were known to be unemployed. Earnings of the girls ranged from one who worked for board and room only to one who earned sixty-eight cents an hour. In conjunction with this, a study was made of 92 mentally handicapped males. The following is a list of the varied jobs they held:

Tannery—sorting hides	Bill-peddling
Railroad yardman	Pin-setter
Carpenter-laborer	Paper boy
Warehouse—unpacking boxes	Farm hand
Factory—piece work	U.S. Army
Machine shop	Factory—finisher
Bell-hop	Bakery—bread molder

It is interesting to note that in this study a great many of these individuals found their own jobs.[7]

If the client is not ready for employment in a competitive situation, then the counselor should look for "semi-sheltered" jobs. By this term is meant a type of job in situations where fast production is not required and where a congenial atmosphere is more usually present, i.e., as an employee in a hospital, school or philanthropic agency. The community service agencies may sometimes desire to employ mentally handicapped individuals to fill low level jobs where turnover is great with persons of normal intelligence. The rural community and county agricultural agents may sometimes provide valuable assistance in placing the client, but as a general rule, it is undesirable to transplant the client from an urban to the rural community or vice versa.

We have thus seen the potentialities of the mentally handicapped, and also some examples of successful job placement. Through adequate counseling and guidance, and selective placement, these individuals can be returned to gainful employment. The mentally handicapped are a distinct source of untapped manpower in this country; by helping them, we are helping ourselves.

SUMMARY

The term mentally handicapped was used in this paper to refer to mentally deficient and mentally retarded individuals. They are considered eligible for rehabilitation services on the basis that their handicap is a deterrent to employment. The counselor plays an important role in the rehabilitation plan of the mentally handicapped. Frequently he must assume a protective parent role in addition to his usual duties and he must use all of his skills in counseling and placing these individuals. It has been said with considerable truth that there are more jobs for the mentally handicapped in this world than there are mentally handicapped persons to fill them. There are many types of manual labor, both rural and routine monotonous industrial jobs, so commonly found in modern assembly lines, which are filled with more contentment by persons of less than average intelligence. It is not safe, however, to assume that the mentally handicapped are always without ambition and satisfied to work within their capability; an important role of the psychologist and vocational counselor in dealing with the mentally handicapped is to assist him to be satisfied with his maximum level of performance and to prevent the development of anxiety in striving for the impossible.

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Meat for Premature Infants

Anemia and iron deficiencies in premature infants can be partially overcome with the early addition of meat to their diet. This dietary supplement, given within two to four weeks after birth, has particular value in increasing red cell volume and circulating hemoglobin mass and building iron reserves. These conclusions are advanced after a study of 35 premature infants and are published in the June edition of the Journal of Diseases of Children, a publication of the American Medical Association. The authors, Dr. Thomas R. C. Sisson and Lorraine E. Whalen, Rochester, N. Y., said "there is an almost inevitable development of anemia and iron deficiency in premature infants during the first year of life."

Since meat protein is well absorbed and utilized by infants, the present study was undertaken to determine if the early addition of meat to the diet would be an effective source of iron. During the year-long test, customary diets for premature infants were given to all 35 babies. Fifteen were also given meat supplements beginning between the second and fourth weeks of life. A marked contrast in the two groups was apparent within a few weeks. Those receiving meat showed an increase of red cell volume and hemoglobin mass between the sixth and eighth week. This gain was not noted in the control group until about the twelfth week.

After this initial gain, in the control group there began a decline in blood values which in some instances reached such a low level it was necessary to give medicinal iron treatment. "The steady decline of these values . . . demonstrates the need for some effective iron source in the diet."

Following their early gain, the blood values of the meat-fed infants remained at a constant level until the thirtieth week when they again showed an increase. This increase continued during the remainder of the study and a definite "increase in iron stores" was noted by the time of their first birthdays.

"Strained meats were well tolerated by all infants, and frequent gastric distress associated with the administration of medicinal iron was avoided."

Meat "provides an excellent source of protein for the infant diet and, this study indicates, an acceptable and utilizable source of iron in natural form."

Pre-Paid Medical Care . . . .

Edited by
RICHARD J. ACKART, M.D.

It Can Be Done.

As long ago as May of 1949, Dr. Paul R. Hawley, currently the Director of the American College of Surgeons, wrote an open-letter to the members of the Michigan State Medical Society emphasizing that "the time is past, if indeed it ever existed, when the responsibility of the physician is limited to providing medical care". The physician, wrote Dr. Hawley, "must now offer a solution for the economic problems of medical care; he alone can do this without revolutionizing the pattern of medical practice. . . ."

Back in 1949 a few other countries, as well as the United States, were still enjoying and benefiting by the free-enterprise pattern to which Dr. Hawley referred. Through its sponsorship of Blue Cross-Blue Shield and its cooperation with other voluntary efforts, the medical profession here in the United States succeeded during the ensuing nine years in maintaining the free-enterprise pattern. But during that period, the free-enterprise system of providing health care disappeared—or was altered almost beyond recognition—in each of those other countries. Today free-enterprise in medicine is making its last-ditch stand here in the United States—every place else government is very much in the picture.

Today, even more than in 1949, the medical profession must hold itself accountable for the economic as well as the professional aspects of medical care—because today as many as 121 million persons are eligible for prepaid health services, which services can be used only at the discretion of doctors. Upon how wisely those services are used depends the continued success of voluntary prepayment; upon the continued success of prepayment, in turn, depends the continuance of the free-enterprise pattern of medical practice. Back in May of 1949 only 60 million persons were eligible for prepaid services; therefore, as concerns the nation's annual medical care bill, the significance of utilization of prepaid services has to date increased two-fold. Therefore, too, toward continuance of the free-enterprise pattern, the responsibilities of the medical profession also have doubled since the day Dr. Hawley wrote his admonitory letter. The growth of prepayment has indeed added to the medical profession's responsibilities—to itself as well as to the public—at the same time that it has protected the medical profession's time-honored way of life.

Many doctors can see "the big picture" and are unselfishly, oftentimes altruistically, accepting their own personal responsibilities in this regard. But, though many in actual number, these doctors apparently are in the minority percentage-wise because the task is not being accomplished. Utilization of prepaid services is not being held to judicious levels. Inadvertent misuse (sometimes fraudulent abuse) of prepaid services is jeopardizing the continued success of prepayment—is jeopardizing continuance of the free-enterprise pattern of medical practice. It's high time for those doctors who are looking beyond their own immediate and selfish interests not only to accept their personal responsibilities but also to accept a certain amount of responsibility for and in behalf of their seemingly myopic colleagues.

In the past the profession has successfully handled many tough problems through organized activity. This utilization problem requires similar activity—through active, local, on-the-spot organizations. Utilization Committees of the professional staffs of each and every hospital!

It can be done.

Not too long ago about six weeks advance notice was the minimum time required for a patient needing care to enter the Sacred Heart Hospital of Allentown, Pennsylvania. Once an emergency patient had to be turned away. Today a three-day reservation is all that is necessary, and emergency cases are taken at all times. An average of forty more patients are admitted each month. *And no new beds have been added.*

All this improvement came about through the members of the medical staff themselves. Stimulated by a few of their more prescient colleagues, the members of the staff surveyed the situation at their hospital—took a good look at it for the first time—and found that far too many patients were staying beyond the time they needed hospital facilities. Some appeared, they said, to be "Blue Cross boarders", unnecessarily utilizing the days allowed by their

contracts. Far too many patients were unnecessarily occupying hospital beds for diagnostic work-ups, studies which were medically indicated in most instances but which nonetheless were quite amenable to satisfactory accomplishment in out-patient or office facilities. In too many cases discharges were being postponed because the doctor's order for ancillary services had been delayed or because consultations had been delayed.

A Committee on Admissions, Conduct and Discharges was formed to work out and execute disciplinary procedures. The Committee was directed to formulate and put into action rules and regulations to correct abuses, with approval of the Medical Executive Board. The entire medical staff was, of course, advised about the function and action of the Committee.

Emergency cases were divided into Critical patients, Serious patients, and Urgent patients, according to diagnosis, and received their respective priority. Admission clerks received a list of conditions that came under each category. Physicians were advised to detail diagnosis so that definite determination as to emergency character could be made.

Each morning for two months the Committee reviewed admissions made during the previous 24 hours. If the attending physician's classification seemed too high, or if the admission appeared unnecessary, patients and charts were briefly examined. The Committee requested offending physicians to appear for explanation on 12 hours' notice. Failure to comply was considered an admission of guilt. Infractions were listed and several staff members were called to account, but only a few violated the spirit of total cooperation.

To shorten the patient stay, the following regulations were made:

1. Transfer of patient from one doctor to a specialist must be made before admission.
2. X-ray and laboratory tests must be ordered before noon on the day of admission to allow for orderly scheduling.
3. Consultation requests should be answered immediately.
4. Doctors should authorize discharge on the day before the patient is to leave so that he can be checked out by 11 A.M.
5. Patients may transfer only to private rooms; not from private rooms to semi-private or ward, since the shortage is in the latter facilities.

A concentrated effort was made to discharge patients who no longer needed hospital care. When patients and relatives complained, the attending physician explained that the Committee had ordered the action. This preserved the doctor-patient relationship and good will toward the hospital. In difficult situations, committee members themselves were asked to explain the new policy.

Within two weeks, ten long-term patients who needed little or no nursing care vacated their urgently needed beds. The community's health agencies were helpful in making services available to patients who no longer needed hospital care. In all cases the discharge proved advantageous to the patient.

Within two months the anti-abuse system was running so smoothly that the daily admissions review by committee members was no longer necessary. The doctors now are "patient-day conscious" and have formed the habit of complying with the new regulations. Hospital beds, for necessary in-patient care, are always available. The average patient stay has decreased by one-half day. A common sense approach to a difficult problem has paid off at Sacred Heart, and the doctors like it.

What can be done in Allentown can be done in each community here in Virginia. Today the profession must have standards of performance in the area of the economics of medical care, just as in the area of the quality of medical care, so why not Utilization Committees as well as Tissue Committees? No more than are Tissue Committees would Utilization Committees need to be "punitive"; but through surveillance of utilization practices (admissions, lengths of stay, use of drugs and diagnostic facilities) these committees could accomplish a great deal through "education"—through reminders that from now on the continuance of the free-enterprise pattern of medical practice is perhaps totally dependent upon proper usage of prepaid services.

Miscellaneous . . . .

Principles of Medical Ethics

This is the seventh of the series of "Principles of Medical Ethics", the first appearing in the Febrary issue. Each section will be reviewed, accompanied by a detailed explanation from the Judicial Council of the American Medical Association.

SECTION 8

A physician should seek consultation upon request; in doubtful or difficult cases; or whenever it appears that the quality of medical service may be enhanced thereby.

TRADITIONAL CONCEPTS INCLUDED WITHIN SECTION 8

The Judicial Council is of the opinion that Section 8 of the Principles of Medical Ethics, 1957, embraces the spirit and intent of several sections of the 1955 edition of the Principles, including Chapter IV, Section 3 (One Physician in Charge); Chapter V, Section 1 (Consultations Should be Encouraged); Chapter V, Section 2 (Consultation for Patient's Benefit); Chapter V, Section 3 (Punctuality); Chapter V, Section 4 (Patient Referred to Consultant); Chapter V, Section 5 (Discussions in Consultation); Chapter V, Section 6 (Responsibility of Attending Physician); Chapter V, Section 7 (Conflict of Opinion); Chapter V, Section 8 (Consultant and Attendant). These sections are reproduced below as guides in the interpretation of Section 8.

Chapter IV, Section 3 (One physician in charge) 1955 edition of the Principles of Medical Ethics:

> When a physician or a member of his dependent family is seriously ill, he or his family should select one physician to take charge of the case. The family may ask the physician in charge to call in other physicians to act as consultants.

Chapter V, Section 1 (Consultations should be encouraged) 1955 edition of the Principles of Medical Ethics:

> In a case of serious illness, especially in doubtful or difficult conditions, the physician should request consultations.

Chapter V, Section 2 (Consultation for patient's benefit) 1955 edition of the Principles of Medical Ethics:

> In every consultation, the benefit to the patient is of first importance. All physicians interested in the case should be candid with the patient, a member of his family or a responsible friend.

Chapter V, Section 3 (Punctuality) 1955 edition of the Principles of Medical Ethics:

> All physicians concerned in consultations should be punctual. When, however, one or more of the consultants are unavoidably delayed, the one who arrives first should wait for the others for a reasonable time, after which the consultant should be considered postponed. When the consultant has come from a distance, or when for any other reason it will be difficult to meet the physician in charge at another time, or if the case is urgent, or it be the desire of the patient, his family or his responsible friends, the consultant may examine the patient and mail his written opinion, or see that it is delivered under seal to the physician in charge. Under these conditions, the consultant's conduct must be especially tactful; he must remember that he is framing an opinion without the aid of the physician who has observed the course of the disease.

Chapter V, Section 4 (Patient referred to consultant) 1955 edition of the Principles of Medical Ethics:

> When a patient is sent to a consultant and the physician in charge of the case cannot accompany the patient, the physician in charge should provide the consultant with a history of the case, together with the physician's opinion and outline of the treatment, or so much of this as may be of service to the consultant. As soon as possible after the consultant has seen the patient he should address the physician in charge and advise him of the results of the consultant's investigation. The opinions of both the physician in charge and the consultant are confidential and must be so regarded by each.

Chapter V, Section 5 (Discussions in consultation) 1955 edition of the Principles of Medical Ethics:

> After the physicians called in consultation have completed their investigations, they and the physician in charge should meet by themselves to discuss the course to be followed. Statements should not be made nor should discussion take place in the presence of the patient, his family or his

friends, unless all physicians concerned are present or unless all of them have consented to another arrangement.

CHAPTER V, SECTION 6 (RESPONSIBILITY OF ATTENDING PHYSICIAN) 1955 EDITION OF THE PRINCIPLES OF MEDICAL ETHICS:

The physician in charge of the case is responsible for treatment of the patient. Consequently, he may prescribe for the patient at any time and is privileged to vary the treatment outlined and agreed on at a consultation whenever, in his opinion, such a change is warranted. However, after such a change, it is best to call another consultation; then the physician in charge should state his reasons for departing from the course decided at the previous conference. When an emergency occurs during the absence of the physician in charge a consultant may assume authority until the arrival of the physician in charge, but his authority should not extend further without the consent of the physician in charge.

CHAPTER V, SECTION 7 (CONFLICT OF OPINION) 1955 EDITION OF THE PRINCIPLES OF MEDICAL ETHICS:

Should the physician in charge and a consultant be unable to agree in their view of a case, another consultant should be called or the differing consultant should withdraw. However, since the patient employed the consultant to obtain his opinion, he should be permitted to state it to the patient, his relative or his responsible friend, in the presence of the physician in charge.

CHAPTER V, SECTION 8 (CONSULTANT AND ATTENDANT) 1955 EDITION OF THE PRINCIPLES OF MEDICAL ETHICS:

When a physician has acted as consultant in an illness, he should not become the physician in charge in the course of that illness, except with the consent of the physician who was in charge at the time of the consultation.

Healthful Foreign Travel

Strange foods, meals off schedule, and excitement can add up to a terrific stomach-ache, if a person doesn't know how to keep fit abroad, according to a Today's Health article.

Before traveling abroad, a person should take a few precautions to protect his health, but he shouldn't let unnecessary fears ruin his trip.

Some suggestions for keeping fit were outlined by Ray Vicker, a Chicago writer, in the August Today's Health, an American Medical Association publication.

Before leaving, a person must have a smallpox vaccination, since a vaccination no older than three years is necessary for re-entry into the United States. Moreover, many countries require a vaccination for entry.

A few Latin American countries also require a personal health certificate issued by a physician. Even if a certificate is not necessary, it might be advisable to have a physical examination prior to departure. The doctor can recommend any special precautions for health protection and can advise on the preparation of a first aid kit.

If a person is going to a country outside Europe, he should have yellow fever and cholera immunizations and perhaps a tetanus shot.

Vicker noted that drinking water is safe in most of the big cities of Europe and many of the small. However, when in doubt, a person should drink bottled water. Ice cubes should be skipped unless they are known to be made from pure water. If water cannot be boiled it can be treated with a chemical in tablet form.

Stomach upsets, common to travelers, are often caused by contaminated food or water, eating indiscretions, or eating habits upset by time changes. Vicker suggested that a person take with him kaomagna, kaopectate and bismuth-paregoric preparations for such difficulties.

Unless milk is boiled, it should be avoided in many countries. The exceptions are Australia, New Zealand, Great Britain, Holland, Belgium, Switzerland, and the Scandinavian countries. In India, Malaya, and certain other countries, hot milk is served on cereal. This is a sign that the milk has been boiled.

Ice cream, butter, and fresh cheese are also taboo if the milk in a country is unsafe. And in the tropics, the taboo should be extended to include cold pastries, custards and meringues.

In preparing a first aid kit, a traveler should include sunburn lotion, aspirin, lotion for insect bites, and adhesives bandages, in addition to remedies for stomach upsets, seasickness, and malaria.

If a person wears glasses, he should take an extra pair or a prescription for his lens.

PRELIMINARY PROGRAM

111th MEETING

The Medical Society of Virginia

JEFFERSON HOTEL
RICHMOND, VIRGINIA
OCTOBER 12-14

PRELIMINARY PROGRAM

111TH MEETING

THE MEDICAL SOCIETY OF VIRGINIA

JEFFERSON HOTEL

RICHMOND, VIRGINIA

OCTOBER 12-14, 1958

Sunday, October 12

1:00 P.M.

COUNCIL

New Headquarters Building

7:00 P.M.

House of Delegates—Dinner Meeting

Ballroom

Monday Morning, October 13

9:30 A.M.

Ballroom

Welcome and Preliminary Announcements—Guy W. Horsley, M.D., Chairman, Local Committee on Arrangements

Memorial Observance—Acors W. Thompson, M.D., Chairman, Membership Committee

Address by President—Harry C. Bates, Jr., M.D., Arlington

10:25 A.M.—Intermission

Scientific Program

J. R. B. HUTCHISON, M.D., Arlington, Presiding

10:30 A.M.—VERTIGO OF CENTRAL ORIGIN—Francis H. McGovern, M.D., Danville

This discussion is concerned with the differentiation of vertiginous lesions of central and peripheral origin and the importance of recent advances in otology in localizing and classifying diseases along the vestibular pathway. This improved knowledge is of practical significance in the recognition of central nervous system diseases in which vertigo is a prominent symptom.

10:45 A.M.—TREATABLE STROKES—Thomas L. Gorsuch, M.D., Waynesboro

Anticoagulation offers effective treatment for thrombotic occlusion of the carotid and vertebral-basilar arteries. Cases illustrating the diagnostic features and methods of therapy of these "treatable strokes" will be presented.

11:00 A.M.—ANTI-COAGULANTS—Reno R. Porter, M.D., Richmond

A discussion of the general objectives of and indications for anticoagulant therapy, including comments on specific anticoagulant drugs and recommendations regarding their most effective use.

11:15 A.M.—*Guest Speaker*—Edward S. Orgain, M.D., Duke Hospital, Durham—THE PRESENT STATUS OF DRUGS IN HYPERTENSION (Sponsored by the Virginia Heart Association)

11:45 A.M.—Intermission

11:50 A.M.—A STUDY OF 200 CASES OF HEMOPTYSIS—Marcellus A. Johnson, III, M.D., Roanoke

A review of 200 consecutive patients seen with a primary complaint of hemoptysis. Slides will be shown depicting the final diagnosis in each case as established by bronchoscopy, bronchography, sputum studies, etc.

12:05 P.M.—POPLITEAL ANEURYSMS—Levi Old, Jr., M.D., Norfolk

Popliteal arterial aneurysms are usually false aneurysms due to atherosclerosis of trauma. The diagnosis is made by physical examination. The treatment is surgical in order to prevent the complications of thrombosis, rupture, distal embolization, nerve pressure or partial occlusion of the popliteal vein. Operative techniques include endoaneurysmorrhaphy, simple excision or excision with preservation of continuity by venous, homologous arterial, or plastic graft.

12:20 P.M.—VASCULAR ANOMALIES PRODUCING COMPRESSION OF THE TRACHEA AND ESOPHAGUS IN INFANCY AND CHILDHOOD—Lewis H. Bosher, Jr., M.D., Richmond

The diagnosis and surgical treatment of congenital vascular lesions which compress the trachea and esophagus will be illustrated by a presentation of five successfully treated cases. The importance of recognizing the symptom complex and making an early diagnosis is stressed.

Monday Afternoon, October 13

See special section on luncheons, committee meetings and special events.

2:00 P.M.
Reference Committee
Ballroom

Tuesday Morning, October 14
9:30 A.M.

Ballroom

HOLCOMBE H. HURT, M.D., Lynchburg, Presiding

9:30 A.M.—THE SULFONAMIDES—TWENTY-FIVE YEARS LATER—William H. Harris, Jr., M.D., Richmond

The first successful clinical application of a sulfonamide compound was reported in 1933. This paper discusses the clinical aspects of the sulfonamides currently available for systemic use including certain newer drugs.

9:45 A.M.—NEWER LIVER FUNCTION TESTS—Benjamin B. Weisiger, III, M.D., Richmond

The recent appearance of a number of enzymatic tests of liver function has opened a new field for study. The methods for and the clinical uses of these tests will be discussed.

10:00 A.M.—POST-CHOLECYSTECTOMY SYMPTOMS—C. B. Morton, M.D., Charlottesville

Patients suffering persistence or recurrence of symptoms after cholecystectomy may be divided into two groups. Those in the first group have symptoms never referable to the biliary tract in the first place. Those in the second group have symptoms because the operation did not deal adequately or properly with the original biliary tract disease or dyscrasia or because the operation introduced some new factor or factors responsible for biliary tract symptomatology.

10:15 A.M.—*Guest Speaker*—John J. Canary, M.D., Georgetown University Hospital, Washington, D. C.—ORAL HYPOGLYCEMIC DRUGS

10:45 A.M.—Intermission

10:50 A.M.—PRIMARY OVARIAN MALIGNANCY—Joseph C. Parker, M.D., Richmond

A study of the incidence, types, management, and results of treatment of primary ovarian malignancies at the Medical College of Virginia Hospitals. A review of the current literature, with suggestions for the early diagnosis and management of this condition, are presented.

11:05 A.M.—GENITAL CYTOLOGY—Clifford H. Fox, M.D., Charlottesville

An attempt will be made to survey the various aspects of genital cytology as they apply to the practicing physician. Fundamentals such as selection of patients, techniques of preparation, types of reports and their significance will be discussed. Illustrations and photomicrographs will be used.

11:20 A.M.—THE PHYSICIAN'S RESPONSIBILITY IN CHILDHOOD ACCIDENT PREVENTION—Forrest P. White, M.D., Norfolk

Accidents at home and on the highway are the number 1 killer of children today. Opportunities and responsibilities of physicians and medical societies are outlined in regard to this, the greatest unmet challenge in preventive medicine.

11:35 A.M.—*Guest Speaker*—Victor C. Vaughan, III, M.D., Eugene Talmadge Memorial Hospital, Augusta, Georgia—GENETIC COUNSELING——(Sponsored by the Nemours Foundation through the Virginia Council on Health and Medical Care)

Tuesday Afternoon, October 14
2:00 P.M.

Ballroom

C. C. HATFIELD M D., Saltville, Presiding

2:00 P.M.—NUTMEG POISONING—Robert C. Green, Jr., M.D., Winchester

Nutmeg is seldom considered to have toxic properties. However, in moderate doses (5 grams or more) it will produce a bizzare clinical syndrome with marked electrolyte changes. The chemistry and pharmacology of nutmeg will be reviewed and a case of severe nutmeg poisoning presented.

2:15 P.M.—MANAGEMENT OF RECENT MIDFACIAL FRACTURES—G. S. Fitz-Hugh, M.D., and J. B. Gorman, M.D., Charlottesville

Some useful suggestions in regard to diagnosis and treatment of the common fracture displacement of the nasal, maxillary and malar bones are presented. Accompanying soft tissue and introcranial injuries are not included. Emphasis is placed upon the prompt diagnosis of underlying bony injuries often concealed by soft tissue hemorrhage and swelling. The simpler type of reduction and immobilization of the fracture to reduce discomfort and morbidity are advocated.

2:30 P.M.—*Guest Speaker*—Ewald W. Busse, M.D., Duke University School of Medicine, Durham—NEUROTIC PROBLEMS IN THE AGED

3:00 P.M.—ANTIMALARIALS IN THE TREATMENT OF RHEUMATOID ARTHRITIS—John B. Catlett, M.D., Richmond

The use of antimalarials in treating rheumatoid

arthritis is discussed; the literature is reviewed; and five successfully treated cases are reported.

3:15 P.M.—Skin Grafting in Severe Burns—B. W. Haynes, Jr., M.D., Richmond

On the Burn Unit of the Medical College of Virginia Hospital, approximately 150 patients are treated yearly, a significant number of which require skin grafting. On the basis of this experience, a technique has been evolved which emphasizes early preparation of the wound for grafting, adequate nutrition, absolute hemostasis, graft immobilization and active physiotherapy to promote early functional recovery.

4:00 P.M.

House of Delegates

Coffee Shop

6:00 P.M.

Cocktail Party—Rotunda Club

7:00 P.M.

Banquet—Ballroom

Presentation of Fifty Year Club Awards,
Scientific Exhibit Awards, and Golf Prizes
Installation of Walter P. Adams, M.D. as President

9:30 P.M.

Dancing—Ballroom

SPECIAL EVENTS

Sunday, October 12

Council Meeting, New Headqaurters Building—1:00 P.M.

Virginia Section, American College of Chest Physicians, Flemish Room, Hotel Jefferson—2:00 P.M.

Virginia Society of Anesthesiology, Parlor 9, Hotel Jefferson, Business Meeting—11:00 A.M.—Cocktails—1:00 P.M.—Luncheon—2:00 P.M.—Guest Speaker, Curtiss B. Hickcox, M.D., Secretary-Treasurer, American Board of Anesthesiology, Inc., Hartford, Connecticut

Open House, New Headquarters Building—Dover and Hathaway Roads—4:00 P.M.

House of Delegates, Dinner Meeting, Ballroom, Hotel Jefferson, 7:00 P.M.

Monday, October 13

Board of Directors, Virginia Academy of General Practice, Breakfast Meeting, Randolph Room, Hotel Jefferson—8:00 A.M.

Virginia Diabetes Association, Breakfast Meeting, Parlor 9, Hotel Jefferson—8:00 A.M.

Virginia Academy of General Practice, Luncheon, Rotunda Club, Hotel Jefferson—1:00 P.M.

Virginia Section, American College of Physicians, Luncheon Meeting, Flemish Room, Hotel Jefferson—1:00 P.M.

Virginia Neuropsychiatric Society, Luncheon Meeting, Coffee Shop, Hotel Jefferson—1:00 P.M.—*Guest Speaker,* Daniel H. Funkenstein, M.D., Boston, Massachusetts

Virginia Orthopaedic Society, Luncheon, Commonwealth Club—1:00 P.M.

Virginia Pediatric Society, Luncheon Meeting, Randolph Room, Hotel Jefferson—1:00 P.M.

Virginia Radiological Society, Luncheon Meeting, Colony Club, Hotel Jefferson—1:00 P.M.

Virginia Society of Ophthalmology and Otolaryngology, Luncheon Meeting, Parlor 9, Hotel Jefferson—1:00 P.M.

Virginia Surgical Society, Luncheon, Commonwealth Club—1:00 P.M.

Reference Committee, Ballroom, Hotel Jefferson—2:00 P.M.

Sub-Committee on Rural Health, Dining Room "A", Hotel Jefferson—3:30 P.M.

University of Virginia Alumni Association Cocktail Party, Flemish Room, Hotel Jefferson—6:00 P.M.

Medical College of Virginia Alumni Association, Cocktail Party and Banquet, Commonwealth Club—6:00 P.M.

University of Virginia Alumni Association, Banquet, Ballroom, Hotel Jefferson—7:00 P.M.

Tuesday, October 14

Virginia Obstetrical and Gynecological Society, Luncheon Meeting, Confederate Room, Hotel Jefferson—1:00 P.M.

House of Delegates, Coffee Shop, Hotel Jefferson—4:00 P.M.

The Medical Society of Virginia, Cocktail Party, Rotunda Club, Hotel Jefferson—6:00 P.M.

The Medical Society of Virginia, Banquet, Ballroom, Hotel Jefferson—7:00 P.M.

Dancing, Ballroom, Hotel Jefferson—9:30 P.M.

TECHNICAL EXHIBITS

Technical Exhibits will be in the Empire Room and on the Mezzanine. Make your plans to visit all exhibits as they are an important part of your meeting. The following is a list of the exhibits with a brief description:

Booth No. 1

J. B. Roerig and Company

New York, New York

J. B. Roerig and Company will feature TAO (pronounced Tay-o), a new antibiotic derivative designed for superior control of common infections due to gram-positive and some gram-negative organisms. Co-featured with TAO will be ATARAX, the new "Peace of Mind" drug. It's an all new chemical specially indicated for the "more normal" person, to bring relief from everyday tensions and anxieties. Literature and samples are available to physicians at the booth which you and your friends are cordially invited to attend.

Booth No. 2

VanPelt and Brown

Richmond, Virginia

VanPelt and Brown extend a cordial invitation to visit their exhibit where representatives will be happy to answer questions and supply clinical samples of their products.

Booth No. 3

Davies, Rose and Company

Boston, Massachusetts

A cordial invitation is extended to the members to visit our booth.

Although most physicians need no introduction to our outstanding cardiac therapies—Pil. Digitalis and Tablets Quinidine Sulfate (Natural)—our representative, Mrs. James B. Mattison, will be on hand to welcome you and will be pleased to have the opportunity to further discuss the dependability of our laboratory productions.

Booth No. 4

A. S. Aloe Company

Washington, D. C.

"One complete Source for the Doctor and Hospital"

Visit the A. S. Aloe booth and see the latest in equipment and supplies for the doctor's office and laboratory. Be sure to get a sample of the new Aloe Disposable Glove for examinations.

Booth No. 5

The National Drug Company

Philadelphia, Pennsylvania

The National Drug Company exhibit highlights PARENZYME AQUEOUS, PARENZYME-B (Buccal) and PARENZYME OINTMENT. The efficacy of the anti-inflammatory, anti-edema agents PARENZYME AQUEOUS and PARENZYME-B has been clinically substantiated for the treatment of traumatic wounds, ulceration, phlebitis, occular inflammation and for loosening of bronchial plugs in severe pulmonary disease. Our representatives anticipate discussing with you the latest advance in Enzyme therapy in the form of PARENZYME-B (Buccal) and PARENZYME OINTMENT.

Booth No. 6

Medco Products Company

Philadelphia, Pennsylvania

The manufacturers of the very popular MEDCOLATOR present the new three-way MEDCO-SONLATOR which combines the benefits of neuromuscular stimulation (as produced by the MEDCOLATOR) plus the advantages of ultrasonic therapy, all in one compact unit. Electrical muscle stimulation and ultrasound may be produced simultaneously (or separately) through a patented SINGLE three-way applicator (transducer). Better results in treating many conditions may be expected from this combined unit.

Booth No. 7

Burroughs Wellcome & Company

Tuckahoe, New York

The extensive research facilities of "B. W. & Co.", both here and in other countries, are directed to the development of improved therapeutic agents and techniques.

Through such research "B. W. & Co." has made notable advances related to leukemia, malaria, diabetes, and diseases of the autonomic nervous system; and to antibiotic, muscle-relaxant, antihistaminic, and antinauseant drugs.

An informed staff at our booth will welcome the opportunity to discuss our products and latest developments with you.

Booth No. 8

G. D. Searle & Company

Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be Dartal, the new tranquilizing agent which controls activities associated with anxiety states and other neuroses; Enovid, the new synthetic steroid for treatment of various menstrual disorders; Zanchol, a new biliary abstergent; Nilevar, the new anabolic agent, and Policton, a new safe, non-mercurial oral diuretic.

Also featured will be Vallestril, the new synthetic estrogen with extremely low incidence of side reactions; Pro-Banthine and Pro-Banthine with Dartal, the standards

in anti-cholinergic therapy; and Dramamine and Dramamine-D, for the prevention and treatment of motion sickness and other nauseas.

Booth No. 9

The Baker Laboratories

Cleveland, Ohio

You are invited to visit our booth where Baker's Modified Milk and Varamel, two successful products for infant feeding, are on display.

Baker representatives will be glad to discuss with you the special features of Baker Milk products which promote better tolerance, less colic, better gain and improved tissue turgor for bottle-fed infants.

Booth No. 10

U. S. Vitamin Corporation

New York, New York

Exhibit features LUFA (Lipotropic factors with Unsaturated Fatty Acids), the new promising approach to hyper-cholesterolemia, hyper-betalipoproteinemia and atherosclerosis. LUFA Capsules effectively help to reduce elevated cholesterol and other blood lipid levels; maintain normal function of the liver, site of metabolism of cholesterol, lipoprotiens and other lipids.

Booth No. 11

Physicians Products Company

Petersburg, Virginia

Physicians Products Company extends a cordial invitation to the members and guests of The Medical Society of Virginia to visit our booth. F. A. "Dick" Frayser, Jr., and W. C. "Bill" Comstock will be in attendance to show you the latest fall releases. Professional samples and literature will be available.

Booth No. 12

The Purdue Frederick Company

New York, New York

The Purdue Frederick Company will present:

ProBilagol—liquid cholecystokinetic for the therapy of biliary tract diseases. Contains d-glucitol and homatropine methylbromide.

Senokot—constipation corrective containing the concentrated total senna glycosides.

Senokap—Senokot plus the stool softener, dioctyl sodium sulfosuccinate.

Senokot with psyllium—adds the bulk effect of psyllium to Senokot.

Senobile—adds the activity of bile salts to Senokot.

Booth No. 13

Warner-Chilcott Laboratories

Morris Plains, New Jersey

A visit to the Warner-Chilcott booth will be well worth while, especially in the interests of your cardiavascular patients, and those with mental or emotional disturbance. The booth features two clinically tested and proven agents: PERITRATE—to aid you in the management of patients with angina pectoris; and PACATAL—a profound ataractic agent with a "normalizing" action.

Booth No. 14

Roche Laboratories

Nutley, New Jersey

ROMILAR *CF* is a new, complete cold formula. Each of the four active ingredients of ROMILAR *CF* contributes to the relief of one or more of the most frequently encountered symptoms of the common cold.

GANTRISIN 'ROCHE' is a single, soluble, wide-spectrum sulfonamide for potent, well-tolerated antibacterial therapy.

Booth No. 15

The Wm. S. Merrell Company

Cincinnati, Ohio

Quiactin for quieting—an improvement over present tranquilizers for tension-anxiety states; patients remain alert, feel better, and TACE, a "treatment of choice" for suppression of lactation will be featured.

You are invited to discuss these and other Merrell research products with our representatives.

Booth No. 16

Milex of New York

Long Island City, New York

The MILEX CANCER DETECTION PROGRAM will be featured at this booth. Also on display will be TRICHO-SAN, our effective therapy for trichomoniasis, moniliasis and non-specific vaginal infections; LESTENS, our new treatment for premenstrual tension and dysmenorrhea; CRESCENT, the most imitated diaphragm; as well as other recent gynecological developments.

Booth No. 17

The Stuart Company

Pasadena, California

Particular interest has been shown by physicians in our new product Softran, for treating mild to moderate anxiety states. The fact that there is no safer or more effective tranquilizer, and that it is in our "softab" form, makes it ideally suited for this time. Softran will be featured at the Stuart booth along with two other widely accepted "softab" products, Bucladin, for nausea, and Mulvidren, the pleasant tasting multivitamin product that melts so quickly in the mouth.

Booth No. 18

E. R. Squibb & Sons

New York, New York

Booth No. 19

Nordmark Pharmaceutical Laboratories

Irvington, New Jersey

Booth No. 20

Eaton Laboratories

Norwich, New York

Furadantin®, a specific for urinary tract infections, provides rapid bactericidal action against a wide range of gram-positive and gram-negative bacteria and organisms resistant to other agents. In six years of extensive use in the treatment of genitourinary tract infections, development of bacterial resistance remains negligible with Furadantin.

For the control of the problem pathogens of bacterial diarrheas and enteritis, Furoxone® (brand of furazolidone) Liquid. Perorally effective against a wide range of enteric bacteria including common pathogenic species and strains of Escherichia, Salmonella and Staphylococcus not adequately controlled by antibiotics and sulfonamides. For use by patients of all ages (may be mixed with infant formulae; passes through a standard nursing nipple).

Booth No. 21

The Coca-Cola Company

Atlanta, Georgia, and Richmond, Virginia

Ice-cold Coca-Cola served through the courtesy and cooperation of the Richmond Coca-Cola Bottling Company, Inc., Richmond, and The Coca-Cola Company.

Booth No. 22

Ayerst Laboratories

New York, New York

You are cordially invited to visit the Ayerst exhibit which will feature "Murel", a new spasmolytic offering a unique 3-way mechanism of action in one molecule—*anticholinergic,* to inhibit transfer of parasympathetic stimuli to effector cells of smooth muscle (atropine-like); *muscolotropic,* to act directly on smooth muscle (paraverine-like); *ganglionoplegic,* to exert a definite but transient ganglion block. Also featured will be "Premarin" Intravenous, a physiologic hemostat, and "Cothera" Syrup —a non-narcotic cough specific.

Booth No. 23

Schering Corporation

Bloomfield, New Jersey

The Schering exhibit will feature TRILAFON, extremely potent tranquilizer and antiemetic, capable of alleviating manifestations of emotional stress without apparent dulling of mental acuity.

Extraordinary potency in behavioral effects without corresponding increase in autonomic, hematologic or hepatic side effects provides a favorable therapeutic ratio and excellent versatility in clinical use.

Booth No. 24

Pet Milk Company

Saint Louis, Missouri

We will be pleased to have you stop and discuss the variety of time-saving material available to busy physicians. Our representatives will be on hand to discuss the merits of "Pet" Evaporated Milk for infant feeding and "Pet" INSTANT Nonfat Dry Milk for special diets.

Booth No. 25

Smith, Kline & French Laboratories

Philadelphia, Pennsylvania

SKF features (1) Vi-Sorbin®, a potent modern tonic containing B_{12}, B_6, iron, folic acid and the Absorption Enhancement Factor, D-Sorbitol; (2) Temaril® Tablets, the unique oral medication for relief of itching, regardless of cause; (3) Compazine®, the tranquilizer and antiemetic virtually free from drowsiness and depressing effect; and (4) Thorazine®, one of the fundamental drugs in medicine.

Booth No. 26

Richmond Surgical Supply Company

Richmond, Virginia

The Richmond Surgical Supply Company will have a most interesting and informative exhibit covering the latest and most modern equipment.

Booth No. 27

Lloyd Brothers

Cincinnati, Ohio

The Lloyd exhibit will feature Lycinate, the completely new comprehensive therapy for the treatment of vaginitis. Lycinate permits the exposure of the offending organisms, resulting in the explosion of the trichomonad as well as bactericidal action against the commonly encountered mixed infections.

Doxinate and Roncovite, both products of original Lloyd research, will be on display and competent representatives will be happy to meet all physicians interest in these three major fields of therapy.

Booth No. 28

Eli Lilly and Company

Indianapolis, Indiana

You are cordially invited to visit the Lilly exhibit. The Lilly sales people in attendance welcome your questions about Lilly products and recent therapeutic developments.

Booth No. 29

Maltbie Laboratories

Belleville, New Jersey

You are cordially invited to visit the Maltbie Laboratories exhibit featuring: Desenex® Night and Day treatment of athlete's foot; Bifran® with a plus for obesity; Cholan preparations with effective hydrocholeresis and superior spasmolysis; Caldesene® Medicated Powder for diaper rash, and Nesacaine®, the first local anesthetic most potent yet less toxic than procaine.

Booth No. 30

A. H. Robins Company

Richmond, Virginia

The cough "season" finds ROBITUSSIN and ROBITUSSIN A-C featured at the Robins exhibit. The antitussive component is glyceryl guaiacolate which increases respiratory tract fluid almost 200 per cent. ROBITUSSIN A-C includes an antihistamine and codeine. Also shown are Robins' antirheumatic preparations PABALATE and PABALATE-HC (with hydrocortisone), the skeletal muscle relaxant ROBAXIN, the new antihistamine DIMETANE, and ALLBEE WITH C (B-complex with ascorbic acid).

Booth No. 31

Abbott Laboratories

Chicago, Illinois

Abbott Laboratories will welcome members of the medical profession at the Company's exhibit of leading specialties and new products. Representatives will be in attendance to answer any questions you may have. Abbott recently introduced a number of new products which representatives at the exhibit will describe and give information on the results of clinical reports.

Booth No. 32

Wm. P. Poythress & Company

Richmond, Virginia

The Poythress exhibit will feature Solfoserpine, the new distinctive reserpine-Solfoton formula combination; Mudrane, so timely in the present asthma season; and the other well-established Poythress specialties: Solfoton, Trocinate Panalgesic, T C S and Uro-Phosphate. We invite your visit and request for trial supplies of any of these Poythress specialties. Mr. R. C. Crump will be our staffing representative.

Booth No. 33

Geigy Pharmaceuticals

Yonkers, New York

The Geigy exhibit will feature BUTAZOLIDIN and BUTAZOLIDIN-ALKA, potent non-hormonal agent effective against arthritis and against inflammation such as superficial thrombophlebitis; PRELUDIN, non-amphetamine appetite suppressant virtually free of CNS stimulation; STEROSAN-HYDROCORTISONE Cream and Ointment, for comprehensive control of a wider range of dermatoses; MEDOMIN, which provides "natural" sleep; SINTROM, the reliable oral anticoagulant especially suited for long term therapy; and DULCOLAX suppositories and tablets for the activation of normal colonic peristalsis in constipation.

Booth No. 34

Lederle Laboratories Division
American Cyanamid Company

New York, New York

Booth No. 35

Sandoz Chemical Works

Hanover, New Jersey

BepHan Space Tabs—new approach to prolonged maintenance of low gastric acidity.

BELLERGAL Space Tabs—assures around the clock control of functional complains (example—menopause symptoms) in the periphery where they originate.

FIORINAL a new approach to therapy of tension headache and other head pain due to sinusitis and myalgia.

Any of our representatives in attendance will gladly answer questions about these and other Sandoz products.

Booth No. 36

Doho Chemical Corporation

New York, New York

AURALGAN, ear medication in otitis media and removal of cerumen. OTOSMOSAN, effective non-toxic fungicidal and bactericidal (gram negative-gram positive) in the suppurative and aural dermatomycotic ears. RHINALGAN, nasal decongestant free from systemic or circulatory effect and equally safe to use on infants as well as the aged. NEW LARYLGAN, soothing throat spray and gargle for infectious and non-infectious sore throat involvements. TURGASEPT, ionic deodorizer aerosol spray, neutralizes odor immediately without floral masking or substituting a new odor.

Mallon Chemical Corporation, subsidiary of the Doho Chemical Corporation, is also featuring: RECTALGAN, liquid topical anesthesia for relief of pain and discomfiture in hemorrhoids, pruritus and perineal suturing. DERMOPLAST, aerosol freon propellant spray for fast relief of surface pain, itching, burns and abrasions. Also obstetrical and gynecological use.

Booth No. 37

Ciba Pharmaceutical Products

Summit, New Jersey

The Ciba exhibit will feature Tessalon a new agent to control cough. This preparation differs from other cough preparations in that it acts locally and it also suppresses the transmission of the cough reflex from the cough reflex center in the medulla. It is also in a very handy oval form as Perles which are designed for immediate release and rapid transmission to the blood stream.

Booth No. 38

Westwood Pharmaceuticals

Bufflalo, New York

FOSTEX CREAM and FOSTEX CAKE are new, easy to use, therapeutically effective medications in the treat-

ment of acne, dandruff and seborrheic dermatitis. They contain Sebulytic T (lauryl Sulfoacetate, alykl aryl polyether sulfonate and dioctyl sulfosuccinate), a unique combination of penetrating anionic soapless cleansers and wetting agents which are highly antiseborrheic and exert antibacterial and keratolytic effects—enhanced by sulfur, salicylic acid and hexachlorophene.

FOSTEX CREAM is applied as a therapeutic skin wash in the initial treatment of acne, when maximum degreasing and peeling are desired. Fostex Cake is used as a therapeutic skin wash for maintenance therapy to keep the skin dry and substantially free of comedones. Fostex Cream is also used as a therapeutic shampoo in dandruff.

Booth No. 39

Desitin Chemical Company

Providence, Rhode Island

DESITIN OINTMENT—pioneer CLO ointment for treatment of burns, ulcers, diaper rash, abrasions, etc. DESITIN POWDER, saturated with CLO, dainty, relieves chafing, sunburn, diaper rash, etc. DESITIN HEMORRHOIDAL SUPPOSITORIES and RECTAL OINTMENT, relieve pain and itching, promote healing, give comfort in uncomplicated hemorrhoids, fissures. No anesthetics or styptics. DESITIN BABY LOTION, protective, antiseptic, emollient, contains no mineral oil, cleanses baby skin with tender care. DESITIN ACNE CREAM, a non-staining, flesh-tinted "Medicream" for the treatment of acne vulgaris, skin blemishes, effective in removal of skin oiliness. Antiseptic. DESITIN COSMETIC AND NURSERY SOAP, supermild, pleasantly scented, antiseptic and deodorant.

Booth No. 40

R. J. Reynolds Tobacco Company

Winston-Salem, North Carolina

Welcome to the R. J. Reynolds Tobacco Company Exhibit! You are cordially invited to receive a cigarette case (monogrammed with your initials) containing your choice of CAMEL, WINSTON Filter, Menthol Fresh SALEM, or CAVALIER King Size Cigarettes.

Booth No. 41

Pfizer Laboratories

Brooklyn, New York

Visit the Pfizer display which features Cosa-Tetracyn, Cosa-Terramycin and Cosa-Signemycin, Pfizer's glucosamine potentiated antibiotics. The Pfizer representative will be pleased to provide you with information on the Company's broad line of antibiotics and specialty products.

Booth No. 42

Parke, Davis and Company

Detroit, Michigan

Members of our medical service staff will be in attendance at our exhibit to discuss important Parke-Davis specialties which will be on display.

Booth No. 43

Ames Company

Elkhart, Indiana

Booth No. 44

Mead Johnson and Company

Evansville, Indiana

The Mead Johnson exhibit has been arranged to give you the optimum in quick service and product information. To make your visit productive, specially trained representatives will be on duty to tell you about their products.

Booth No. 45

W. B. Saunders Company

Philadelphia, Pennsylvania

New Saunders titles of special interest are: Roberts—Difficult Diagnosis; Flint—Emergencies; von Oettingen—Poisonings; and Hollender—Psychology of Medicine.

Our whole line of Clinical books will be at the Saunders booth.

Booth No. 46

Charles C. Haskell & Company

Richmond, Virginia

Featuring BELBARB, used for over 20 years in peptic ulcer, gastrointestinal hypermotility, simple anxiety reactions and tension states, etc., and the HASAMAL family of analgesics. Introducing BELBARMINE, a combination of the BELBARB formula with d-amphetamine for appetite suppression and simple anxiety tension states.

Booth No. 47

Ortho Pharmaceutical Corporation

Raritan, New Jersey

Ortho cordially invites you to their booth where DELFEN Vaginal Cream, Ortho's most spermicidal contraceptive, will be featured. Also on display will be RARICAL Iron-Calcium Tablets, an effective iron calcium compound for use in iron deficiency anemias and in all cases requiring calcium supplementation. RARICAL Iron-Calcium with Vitamin Tablets, a complete prenatal supplement, will also be displayed. Ortho representatives will be happy to meet you and answer any questions you may have on Ortho products.

Booth No. 48

Sanborn Company

Waltham, Massachusetts

Visitors at the Sanborn Company booth will have full opportunity to see and have demonstrated the outstanding new portable VISETTE (18-pound, transistorized ECG) together with the popular Model 51 Viso-Cardiette, as

well as latest models of other instruments for cardiavascular (and other) diagnostic use.

In addition, there will be demonstrations and/or data available on all Sanborn research recording systems—direct-writing, photographic and tape; on supplementary oscilloscopes; and on physiologic transducers.

Booth No. 49

Dome Chemicals

New York, New York

Dome proudly presents the ACNE-DOME Group for complete Acne Therapy; DOMERINE SHAMPOO for scalp seborrhea; the most comprehensive series of topical corticosteroids—CORT-DOME, NEO-CORT-DOME, COR-TAR-QUIN, CORT-QUIN, HIS-A-CORT-E, ES-A-CORT, ACNE-CORT-DOME, many in both Creme and Lotion form, ACID MANTLE Creme and Lotion for housewives' eczema; a complete line of Wet Dressings including DOMEBORO and SOY-BORO Powder Packets, and the new SOYALOID COLLOID BATH containing the unique Colloidal Soy Bean Complex.

Booth No. 50

Ross Laboratories

Columbus, Ohio

As adjunct to the physician's oral reassurance of anxious new parents, the ROSS DEVELOPMENTAL SERIES offers visual materials (INDIVIDUAL CASE RECORDS, BEHAVIORAL DEVELOPMENT FOLDERS, EMOTIONAL DEVELOPMENT BOOKLETS). Current concepts stress the development of the infant as a whole being. Physiologic infant feeding may be discussed with your SIMILAC representative.

Booth No. 51

Zimmer-Baxter Associates

Charlotte, North Carolina

Booth No. 52

Peoples Drug Stores

Washington, D. C.

Peoples Drug Stores are deeply grateful to the physicians of Virginia for their continued cooperation and support. The members of The Medical Society of Virginia, in attendance at the annual meeting in Richmond, are cordially invited to visit our booth. Representatives of our Company will be on hand to greet you and furnish information concerning the professional services offered to physicians.

Woman's Auxiliary . . . .

*President*_____ Mrs. John R. St. George, Portsmouth
*President-elect*_____Mrs. Charles A. Easley, Danville
*First Vice-President*__Mrs. Girard V. Thompson, Danville
Second Vice-President
Mrs. George K. Brooks, Jr., Richmond
*Third Vice-President*__Mrs. Robert H. Detwiler, Arlington
*Recording Secretary*____Mrs. James R. Grinels, Richmond
Corresponding Secretary Mrs. Howard I. Kruger, Norfolk
*Treasurer*_____Mrs. Wyndham B. Blanton, Jr., Richmond
*Parliamentarian*____ Mrs. Richard M. Reynolds, Norfolk
*Historian*_____Mrs. Hawes Campbell, Richmond

PROGRAM

of the

Thirty-sixth Annual Convention

Richmond, Virginia **October 12-15, 1958**

Headquarters—Hotel Jefferson

A cordial invitation is extended to all members of the Woman's Auxiliary to The Medical Society of Virginia, their guests and the wives of physicians attending the convention to participate in all social functions and attend the general meeting of the Auxiliary.

Information and tickets for luncheon and tour of homes will be available at the registration desk. Luncheon reservations will close at 10:00 a.m. on Tuesday.

Registration Hours

Sunday, October 12_____5:00 p.m. to 7:00 p.m.
Monday, October 13_____9:00 a.m. to 4:00 p.m.
Tuesday, October 14_____9:00 a.m. to 10:30 a.m.
Please register promptly upon arrival and receive badge.

Monday, October 13

9:30 A.M.—Continental Breakfast, Colony Club, Hotel Jefferson
All registered guests invited.

10:00 A.M.—Pre-Convention Board Meeting, Colony Club
All State Officers, Directors and Committee Chairmen, County Presidents and Presidents-elect are expected to attend.
Mrs. J. R. St. George, President, presiding.

2:00 P.M.—Tour of homes
Admission—$3.00. Proceeds to be contributed to the Sheltering Arms Hospital. Sponsored by the Woman's Auxiliary to the Richmond Academy of Medicine. Transportation furnished for registered guests.

2:00 to 5:00 P.M.—Tea at the home of Dr. and Mrs. Donald S. Daniel, 203 Ampthill Road, Richmond.
All registered guests invited. Transportation furnished only to those attending tour.

Tuesday, October 14

9:00 A.M.—Formal Opening of the Thirty-sixth Annual Convention of the Woman's Auxiliary to The Medical Society of Virginia, Flemish Room—Hotel Jefferson
Mrs. J. R. St. George, President, presiding.
All women attending the convention cordially invited.
Invocation—Mrs. Hawes Campbell, Convention Chaplain
Pledge of Loyalty:
I pledge my loyalty to the Woman's Auxiliary to the American Medical Association. I will support its activities, protect its reputation, and ever sustain its high ideals.
Address of Welcome—Mrs. William F. Grigg, Jr., President, Woman's Auxiliary to the Richmond Academy of Medicine.
Response—Mrs. Lemuel E. Mayo, Immediate Past-President, Woman's Auxiliary to the Portsmouth Academy of Medicine.
Convention Announcements—Mrs. George K. Brooks, Jr., Chairman of Arrangements.
Roll Call of Auxiliaries—Mrs. James R. Grinels, Recording Secretary.
Minutes of the Thirty-fifth Annual Meeting—Mrs. Grinels.
Introduction of Honored Guests—Mrs. E. Arthur Underwood, of Vancouver, Washington, President of the Woman's Auxiliary to the American Medical Association; Mrs. Walker L. Curtis, of College Park, Georgia, President of the Woman's Auxiliary to the Southern Medical Association, and Mrs. Kalford W. Howard, of Portsmouth, Virginia, First Vice-President of the Woman's Auxiliary to the Southern Medical Association.
Presentation of the President of The Medical Society of Virginia, Dr. Harry C. Bates, Jr.—Mr. Robert I. Howard, Executive Secretary.
Greetings—Dr. Harry C. Bates, Jr.
In Memoriam—Mrs. Lee S. Liggan
Remarks by the President and Recognition of State Officers and Committee Chairmen—Mrs. John R. St. George.
Report of Credentials Committee — Mrs. R. Bruce Lawrence
Report of the Treasurer—Mrs. Wyndham B. Blanton, Jr.
Courtesy Resolutions—Mrs. Maynard R. Emlaw
Unfinished Business
New Business
Recommendations from the Board
Report of the Nominating Committee — Mrs. A. B. Gravatt
Election of Officers
Presentation of Representatives from the Crippled Children's Hospital—By Mrs. Rufus Brittain, Chairman Philanthropic Fund.
Report of Delegates to Annual Convention of the Woman's Auxiliary to the American Medical Asso-

ciation, Held in San Francisco, California, June 23-27, 1958—Mrs. William F. Grigg, Jr., Chairman

Guest Speakers:

Mrs. E. Arthur Underwood, President, Woman's Auxiliary to the American Medical Association.

Mrs. Walker L. Curtis, President, Woman's Auxiliary to the Southern Medical Association.

Adjournment.

12:30 P.M.—Inaugural Luncheon, Commonwealth Club

Mrs. John R. St. George, President, Presiding.

Invocation—Mrs. Hawes Campbell

Presentation of Honored Guests

Luncheon

Installation of Officers—Mrs. E. A. Underwood

Presentation of President's Pin and Gavel—Mrs. J. R. St. George

Presentation of Past-President's Pin — Mrs. Lee S. Liggan

Inaugural Remarks—Mrs. Charles A. Easley

Convention Acknowledgments—Mrs. George K. Brooks, Jr.

Fashions by Montaldo

Adjournment.

3:30 P.M.—Post-Convention Board Meeting — Mrs. Charles A. Easley, President, presiding. Colony Club

All new State Officers, Directors, Committee Chairmen, County Auxiliary Presidents and Presidents-elect are expected to attend.

Wednesday, October 15

8:30 A.M.—Past-Presidents Breakfast — Mrs. Lee S. Liggan, Chairman.

COMMITTEE ON ARRANGEMENTS

General Chairman—Mrs. George K. Brooks, Jr.

Co-Chairman—Mrs. William F. Grigg, Jr.

Credentials—Mrs. R. Bruce Lawrence

Finance and Registration—Mrs. Wyndham B. Blanton, Jr.

Hospitality—Mrs. Carl S. Lingamfelter

Luncheon—Mrs. Gilman R. Tyler

Coffee Hour, Meeting Places and Pages—Mrs. Raymond C. Hooker, Jr.

Exhibits—Mrs. Martin Markowitz

Publicity—Mrs. James K. Hall

Corresponding Secretary, Printing and Supplies—Mrs. L. Benjamin Sheppard

Flowers—Mrs. Frederick E. Vultee

Fairfax.

At the monthly luncheon of this Auxiliary on April 1st, the following officers were installed: President, Mrs. Thomas Haggerty; president-elect, Mrs. Carl Parker; corresponding secretary, Mrs. John Prominski; recording secretary, Mrs. Joseph Provenzano; and treasurer, Mrs. Gerard Inguagiato.

On April 15th, the Auxiliary was hostess to the Arlington and Alexandria auxiliaries at a luncheon. Mrs. St. George and Mrs. Easley, president and president-elect of the State Auxiliary, were guests of honor.

Northampton-Accomac.

This Auxiliary held its summer meeting on July 15th at the cottage of Mrs. W. T. Green, Jr., at Tankard's Beach. There were twenty-four members present. Officers for 1959 were elected as follows: President, Mrs. Milton Kellam; vice-president and president-elect, Mrs. W. C. Henderson; secretary, Mrs. R. W. Wingfield; and treasurer, Mrs. Wayne Mears.

Mrs. Isadore S. Zfass,

A member of the Auxiliary to the Richmond Academy of Medicine, was recently elected first vice-president of the newly organized Woman's Auxiliary to the American Electroencephalographic Society.

Editorial....

The History of the 45th General Hospital

IT IS DIFFICULT to write about the usual medical matters when so many excellent books are being published by or about medical men in Virginia. "From Lee to Bari," a history of the 45th General Hospital during World War II, is the most recent example of an outstanding volume which should not be permitted to pass without mention.

This 500 page account of the manifold activities of this general hospital was prepared by Dr. Alton D. Brashear of Richmond, who was Chief of the Dental Service for virtually the entire period of the unit's activity. In the preface the author stated he was prompted to write this book as a companion volume to the history of "Base Hospital No. 45 in the Great War", as a tribute to the sponsoring Medical College of Virginia and as a memorial to those members who died in service. Worthy as these objects were, there was no need to justify the preparation of this most readable and thoroughly documented account of the activities of 200 Virginians who served in the medical, dental and administrative corps, as well as several hundred nurses and well over a thousand enlisted men from every state in the Union.

While it appears next to impossible to pass the knowledge gained in one war to those whose lot it is to fight the next, if such can be done the lessons learned and recorded by the 45th General Hospital should be of inestimable value. If only the total number of admissions and deaths are recalled, a level of accomplishment was achieved which may, at some future time, be equalled but hardly surpassed. At Rabat and subsequently at Naples and Bari, a total of 35,844 patients were admitted. Sixty-five died or less than one for every 500 admissions. Under the existing circumstances a death rate of 0.18 per cent approaches perfection.

The record made by this group in history's greatest war should have been recorded and could not have been prepared in a more adequate fashion. It is hoped that some former member of the 8th Evacuation Hospital will perform a similar service for the excellent unit raised at the University of Virginia by the late Staige D. Blackford before this valuable information becomes dissipated by the vagaries of memory.

H.J.W.

Current Currents

MEDICARE funds of $70.2 million have been approved by the Congress, which has let it be known that it does not expect the military services to exceed that figure. The Department of Defense has, therefore, outlined certain restrictions which will be imposed on the program beginning October 1. They are:

1. Dependents living with sponsors will use military facilities, unless such facilities are unavailable and dependents' cards so certified.
2. New and first trimester maternity patients, living with sponsors, must, after October 1, use military facilities unless special authorization is granted for civilian care. Second and third trimester patients, under civilian care October 1, may continue. However, if change of physician is made, patient must use military facility unless special authorization is secured.
3. All services "not clearly specified in law" will be discontinued in civilian facilities for patients living with or apart from sponsors. These discontinued services include injuries not requiring hospitalization, termination visits prior to hospitalization, tests before and after hospitalization, well baby visits, elective surgery and nervous and mental diseases.

Eligible dependents not residing with sponsors retain freedom of choice. Civilian emergency care will continue. In those areas having more than one military facility, commanders will establish clearing points to assure optimum use of all service hospitals.

A FIELD SURVEY of 25 skilled nursing homes in various sections of the nation is being conducted by the AMA Council on Medical Service. The primary purpose of the survey is to obtain data that will aid in developing recommended guides and standards governing medical care in nursing homes. The Council is anxious to secure information on such phases of nursing home operation as nursing care, food service, social service, staffing, personnel policies and costs. Tentative plans call for a result of the survey, along with suggested standards for medical care and supervision, to be published this fall.

DID YOU KNOW that approximately 53 per cent of fatal home accidents occur in the bedroom. According to recent statistics, this is almost 3.5 times greater than the accident rate for living and dining rooms.

It has also been reported that one out of every 18 persons in the United States suffered a disabling injury last year.

CONGRATULATIONS to "The AMA News", which made its debut on August 11. The News is a fortnightly publication with a new concept of reporting news to physicians. The purpose of the News is to help physicians better understand the day to day problems that go with the practice of medicine.

The publication will keep physicians informed on legislation, business, court decisions in the medico-legal field and other news of particular interest. It will even carry articles on travel, sports, hobbies and the arts. This is truly the physician's newspaper and might well become medicine's greatest conduit of communication.

INQUIRIES have been received concerning organizations listed as the American Registry of Doctor's Nurses and Certified Nurses Aids of America, Inc. From information received from the American Nurses Association and the Virginia State Nurses Association, it appears that these organizations are commercial in nature and are not recognized by professional associations in the health field.

"THE MEDICINE MAN" is the title of a new film just completed by the American Medical Association. Prepared especially for airing over local television stations under the auspices of local medical societies, this 27-minute production dramatically pinpoints the fight against quackery in the food and nutrition field. It singles out problems which stem from health lecturers who travel from town to town giving misinformation on nutrition as a tie-in to plugging their products of questionable merit and from door to door salesmen who misrepresent the value of nutritional products. The film also shows how the medical profession cooperates with the Food and Drug Administration and such agencies as the National Better Business Bureau.

Prints will be available to local medical societies after September 15. They may be secured from the AMA TV Film Library.

A GROUP PRACTICE ROSTER is now in the process of being completed by the AMA. Thus far, information has been received on 989 groups located in the United States, Hawaii and Canada. Verification sheets have been sent to those groups already on file. Physicians who practice in groups of two or more, and have not received a check sheet, are invited to send the following information to the AMA Council on Medical Service: group practice name, address, office building (indicate whether rented or owned), number of physicians and the specialties represented.

ALL ROADS LEAD TO RICHMOND FROM OCTOBER 12-14. MAKE SURE

YOU ATTEND THE ANNUAL MEETING

News....

New Members.

Since the list published in the August issue of the Monthly, the following new members have been admitted into The Medical Society of Virginia:

James Perry Charlton, M.D., Virginia Beach
William F. Enos, M.D., Fairfax
Allan Hall, M.D., Arlington
Robert William Iden, M.D., Warrenton
William Rayner Johnson, M.D., Winchester
James Louis Keating, M.D., Arlington
Alvin B. H. Mirmelstein, M.D., Newport News
William Floyd Olinger, M.D., Big Stone Gap
Lawrence Joseph Zaino, M.D., Hampton

Headquarters Building.

It is hoped that by the time this issue of the Monthly reaches you, the staff of The Medical Society of Virginia will be in the process of packing up to move to the new headquarters at 4205 Dover Road, Richmond.

The building will be open for inspection to our members at any time, but more specifically it will be dedicated and open-house held during the time of the annual meeting in Richmond, October 12-14. It is hoped that all of our members and their guests will avail themselves of the opportunity to inspect their new headquarters as it is a building of which you should be very proud.

New Medical Exhibit at Jamestown.

The exhibit, which includes an early Virginia hospital and 17th century surgical instruments and medical books, shows how ill-prepared early settlers were in coping with health problems. The hospital model is a replica of one built near the James River Rapids (now the lower part of Richmond). Three of the instruments used by colony physicians during the 1600's for amputation of limbs are displayed. There are also rare medical treatises on display.

All items in the new exhibit were loaned by the history section of the Richmond Academy of Medicine. Other cooperating groups sponsoring the exhibit include the Medical College of Virginia Foundation, The Medical Society of Virginia and the Virginia Academy of General Practice.

The exhibit is open from 9:00 A. M. to 5:00 P. M. daily.

Dr. June C. Shafer,

Arlington, has been elected as secretary-treasurer of the Washington Dermatological Society. Dr. Raymond Osbourn is chairman and Dr. Peter N. Horvath, vice-chairman. Both are of Washington, D. C. Meetings are held in Washington on the fourth Thursday of every month from September through May.

Dr. A. E. Powell,

President of the Madison County Recreation Center was honored recently for his contributions to the Center. He was cited for his efforts in obtaining a swimming pool for the center and for his work in its development. Dr. Powell was presented with a silver tray on behalf of the organization.

Conference on Mental Retardation.

Dr. Benedict Nagler, Superintendent of the Lynchburg Training School and Hospital, Colony, announces a Conference on Research and Training in the Field of Mental Retardation to be held at The Training School on September 11 and 12. The Conference has been made possible by a Mental Health Project Grant from the Public Health Service. Outstanding leaders in psychiatry, neurology, psychology, education, social work, and nursing will address the meeting. The Conference is open to all professionally interested in Mental Retardation and further information may be obtained from Dr. Nagler.

Dr. William D. Prince,

Trial justice and country court judge in Sussex County, has retired from the bench after twenty-six years of service. He practiced medicine from 1895 to 1932. Dr. Prince is eighty-six years of age and is one of Sussex County's most widely known citizens. He has tried 35,763 cases and "each one was handled with a characteristic humor, common sense and fairness."

Dr. John B. Gorman

Has returned to Lynchburg and will be associated with his father, Dr. James R. Gorman, in the practice of ear, nose and throat diseases. He has recently been with the department of otolaryngology of the University of Virginia School of Medicine where he also held a fellowship in otolaryngology for 1955-56.

Health Awards

Once again The Medical Society of Virginia has recognized the contributions to health being made by members of the 4-H Club. Dr. J. R. York, Berryville, recently represented the Society and its Committee on Rural Health at a special award ceremony in Blacksburg.

The award recipients from left to right are: Jackie Insley, York County; Dr. York; Linda Murphy, Clark County; Joseph Vasko, III, Henrico County; and Carolyn Morrison, Rockbridge County.

The Radford Community Hospital

Held their Fourteenth Annual Banquet and Scientific Program on July 24th. The guest speaker was Dr. Earl D. McBride, Clinical Professor of Orthopaedic Surgery, Oklahoma University School of Medicine, and Chief of Staff of the Bone and Joint Hospital and McBride Clinic, Oklahoma City, Oklahoma. His subject was Disability Evaluation.

Dr. Paige E. Thornhill,

Norfolk, has been appointed by Governor Almond to a Commission to Study Problems Relating to Children Born out of Wedlock.

Dr. William D. Keck

Has recently joined the Staff of Saint Albans Psychiatric Hospital in Radford. Dr. Keck was formerly a Fellow in Psychiatry and Assistant Clinical Director at Graylyn Hospital in Winston-Salem, North Carolina.

The Eye Bank

And Sight Conservation Society of Virginia has been asked to be affiliated with the National Eye Bank in New York City, and the director, Dr. E. G. Gill, Roanoke, has been elected a member of the Council.

Tennessee Valley Medical Assembly.

This Assembly, sponsored by the Chattancoga and Hamilton County Medical Society will be held at the Read House, Chattanooga, September 29th and 30th. Speakers include Dr. Owen H. Wangensteen, Minneapolis; Dr. William R. Arrowsmith, New Orleans; Dr. John Parks, Washington, D. C.; Dr. Paul E. McMaster, Los Angeles; Dr. E. Perry McCullagh, Cleveland; Dr. Merrill O. Hines, New Orleans; Dr. Vincent J. Collins, New York; Dr. McLemore Birdsong, Charlottesville; Dr. Manuel R. Lichtenstein, Chicago; Dr. John R. Snavely, University of Mississippi; Dr. Kenneth M. Warren, Boston; Dr. Robert Greenblatt, Atlanta; Dr. Julian Ruffin, Durham; Dr. Francis Chamberlain, San Francisco; Dr. Richard H. Overholt, Boston; Dr. William Altemeier, Cincinnati; Dr. Waltman Wal-

ters, Rochester; and Dr. Herbert Rattner, Chicago.

The program is approved for postgraduate study, Category I, for members of the American Academy of General Practice. Further information may be obtained from the Tennessee Valley Medical Assembly, 109 Medical Arts Building, Chattanooga 2, Tennessee.

Symposium on Carcinoma of the Colon and Rectum.

This symposium will be presented at the annual scientific session of the American Cancer Society to be held October 20-21 at the Biltmore Hotel, New York. There will be discussions on Pathogenesis and Etiology of Cancer of the Rectum and Colon, Diagnosis of Cancer of the Colon and Rectum, Meeting the Problem of Spread of Cancer of the Colon and Rectum, and the Treatment.

Inquiries concerning this program should be addressed to Director, Professional Education, American Cancer Society, Incorporated, 521 West 57th Street, New York 19, New York.

American Rhinologic Society.

This Society will hold its fourth annual meeting in the Palmer House, Chicago, October 17-18. Among the topics to be discussed will be pulmonary and nasal physiology, laboratory and clinical aspects of bone transplants, hump removal, roof repair, and nasal process corrections.

The profession is cordially invited to attend as guests and there will be no registration fee. For further information, write Dr. Robert M. Hansen, secretary of the Society, 1735 North Wheeler Avenue, Portland 17, Oregon.

Wanted.

Internist, residency completed, for well established Virginia group. Associated excellent hospital. Partnership after one year. No stock to buy, no home calls, vacation, study and sick benefits. Apply to Box #500, care the Virginia Medical Monthly, P. O. Box 5085, Richmond 20. Send full information with first letter. (*Adv.*)

For Sale.

Office and equipment and/or home of Dr. W. H. Malan, Dublin, Virginia. Good terms. Excellent opportunity for young physician to take over this practice. Reply to Dr. W. H. Malan, 420 LeHigh Street, Lake City, Florida. (*Adv.*)

Wanted.

A pediatrician for the Lebanon General Hospital, Inc., Lebanon, Virginia.

A surgeon for the Clinchfield Hospital, Dante, Virginia.

A general practitioner for Dante, Virginia.

For information, contact Dr. W. C. Elliott, Lebanon General Hospital, Lebanon, Virginia. (*Adv.*)

Wanted to Buy.

One used but fairly recent model, 100 or 200 MA x-ray machine with bucky, timers and table. Must be in excellent and usable condition and seller must guarantee same set up here before complete payment. Price must also be compatible with used equipment. Advise what you have, price and year of model. Not interested in other equipment as this desired unit will replace present unit. Contact Dr. W. B. Barton, Stonega Hospital, Stonega, Virginia. (*Adv.*)

For Sale.

X-ray unit. G. E. Model DRF, 20 MA with bucky table and accessories. Contact Dr. F. R. Crawford, Farmville, Virginia. (*Adv.*)

Doctors Wanted.

Expanding General Practice Group seeks additional members under age 35. One and one-half years association prior to partnership is required. Inquiries invited. W. P. Locke Clinic, Hyde Park, New York. (*Adv.*)

Office Available.

Doctors' Suite available in medical building at very busy, large apartment community of 10,000—with immediate surrounding area of 20,000 more. Three rooms and bath. This is a wonderful opportunity. Contact L. F. Kettell, 313 North Glebe Road, Arlington 3. Phone Jackson 2-5004. (*Adv.*)

Doctor's Suite Available.

Crestview shopping center in Richmond. May share secretarial help and waiting room with dentist in adjoining suite. Phone ATlantic 8-2388. (*Adv.*)

Obituaries . . . .

Dr. John William Rosser Smith,

Charlottesville, died July 19th, at the age of eighty-two. He received his medical degree from the University of Virginia in 1900. Dr. Smith first practiced in Pocahontas County, West Virginia, and returned to Albemarle County in 1923 where he practiced until his retirement in the mid 30's. He was a Life Member of The Medical Society of Virginia, having joined in 1924.

Dr. Smith is survived by his wife and three daughters.

Dr. Dan Oscar Nichols,

Charlottesville, died July 24th, after a short illness. He was fifty-seven years of age and a native of West Virginia. Dr. Nichols received his medical degree from the University of Virginia in 1926 and had practiced in Charlottesville since 1932. He had been a member of The Medical Society of Virginia for twenty-five years.

Dr. Nichols is survived by his wife and two daughters.

Dr. William Hunt Walcott,

Alexandria, died May 27th, at the age of seventy-five. He was a graduate of the Baltimore Medical College in 1908. Dr. Walcott was formerly a member of The Medical Society of Virginia.

Dr. Mowry.

Dr. George Edward Mowry, a member of this staff since 1953, died on June 3, 1958, at the age of 35 of acute myelogenous leukemia. He was born in Derry, Pennsylvania, the son of Victor R. Mowry and Nellie Hogg Mowry.

Dr. Mowry received his B.A. degree from Washington and Jefferson College and was graduated in medicine from Temple University in 1952. Following graduation, he served a rotating internship at Riverside Hospital and then began the general practice of medicine at Wicomico, in Gloucester County. He was a member of the Mid-Tidewater Medical Association, American Association of General Practice, and The Medical Society of Virginia. Surviving him are his wife, the former Miss Cornelia Nye, a son and two daughters.

During his few years of practice in Wicomico, Dr. Mowry built up a large and devoted following and was well established in the community. He quickly developed the tolerant understanding of the good physician and his patients respected and loved him. He continued to care for his most needy patients up to the last few weeks of his critical illness. He never lost his cheerfulness, or his hearty good humor, which was one of his finest characteristics. Our profession has suffered a real loss and he will be greatly missed by his patients and friends.

THEREFORE, BE IT RESOLVED, that the members of the Riverside Hospital Staff extend their deepest sympathy to the family of our departed colleague.

BE IT FURTHER RESOLVED that this resolution be recorded in the minutes of this meeting and copies sent to the family and to the Virginia Medical Monthly.

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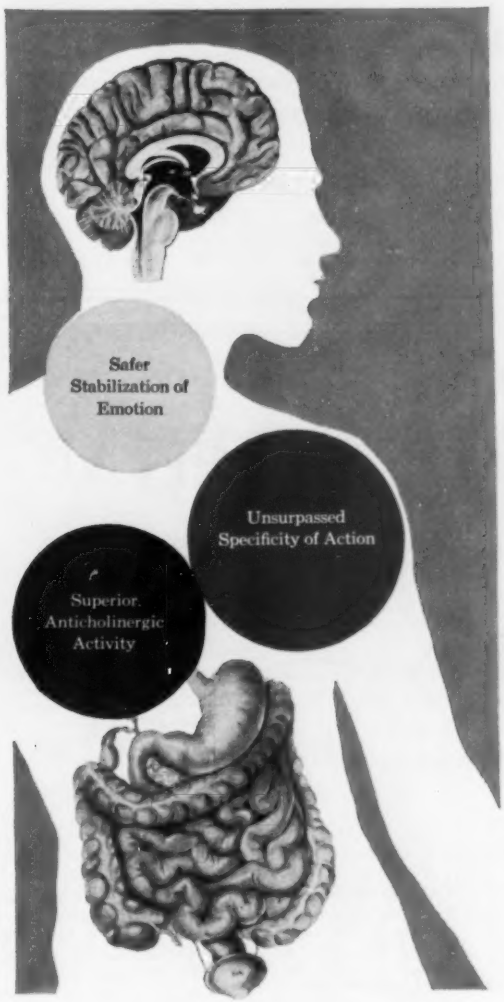

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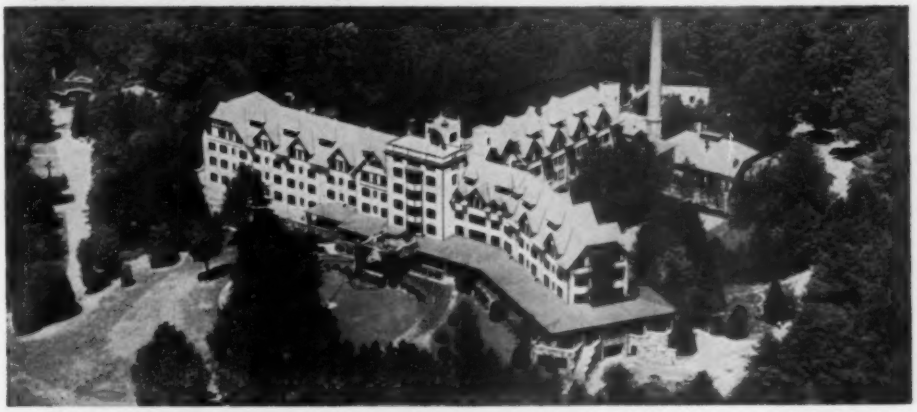

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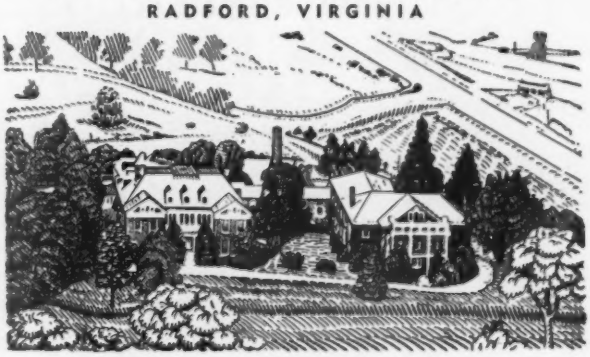

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1. Hodges, F. T.: *GP* 14:86, Nov., 1956.

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Wilkins, R. W.: New England J. Med. 257:1026, Nov. 21, 1957.

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Freis, E. D., Wanko, A., Wilson, I. H. and Parrish, A. E.: J.A.M.A. 166:137, Jan. 11, 1958.

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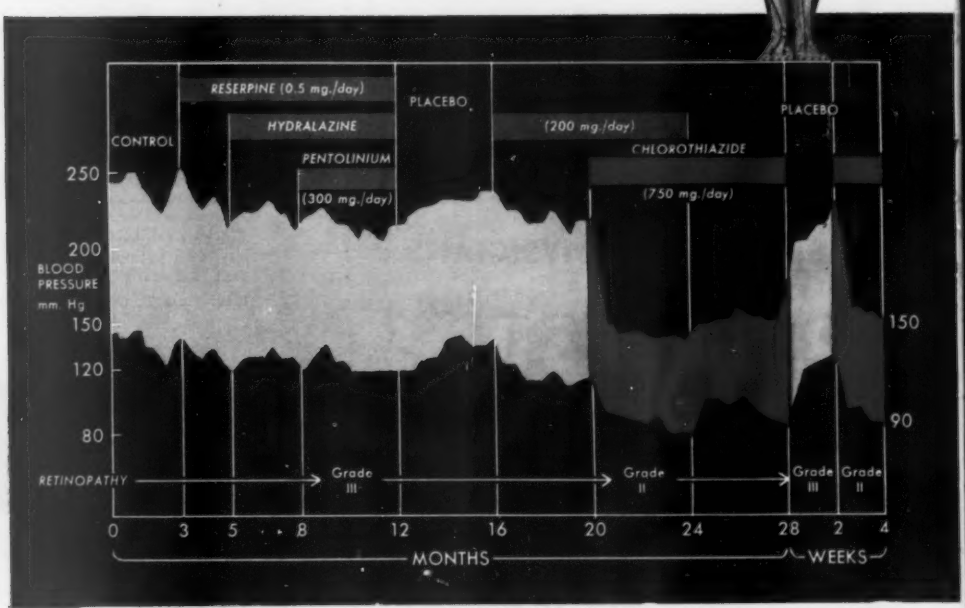

In "Chlorothiazide: A New Type of Drug for the Treatment of Arterial Hypertension,"
'Hollander, W. and Wilkins, R. W.: Boston Med. Quart. 8: 1, September, 1957.

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1. Thomas, J. W.: Ann. Allergy *16*:128, 1958

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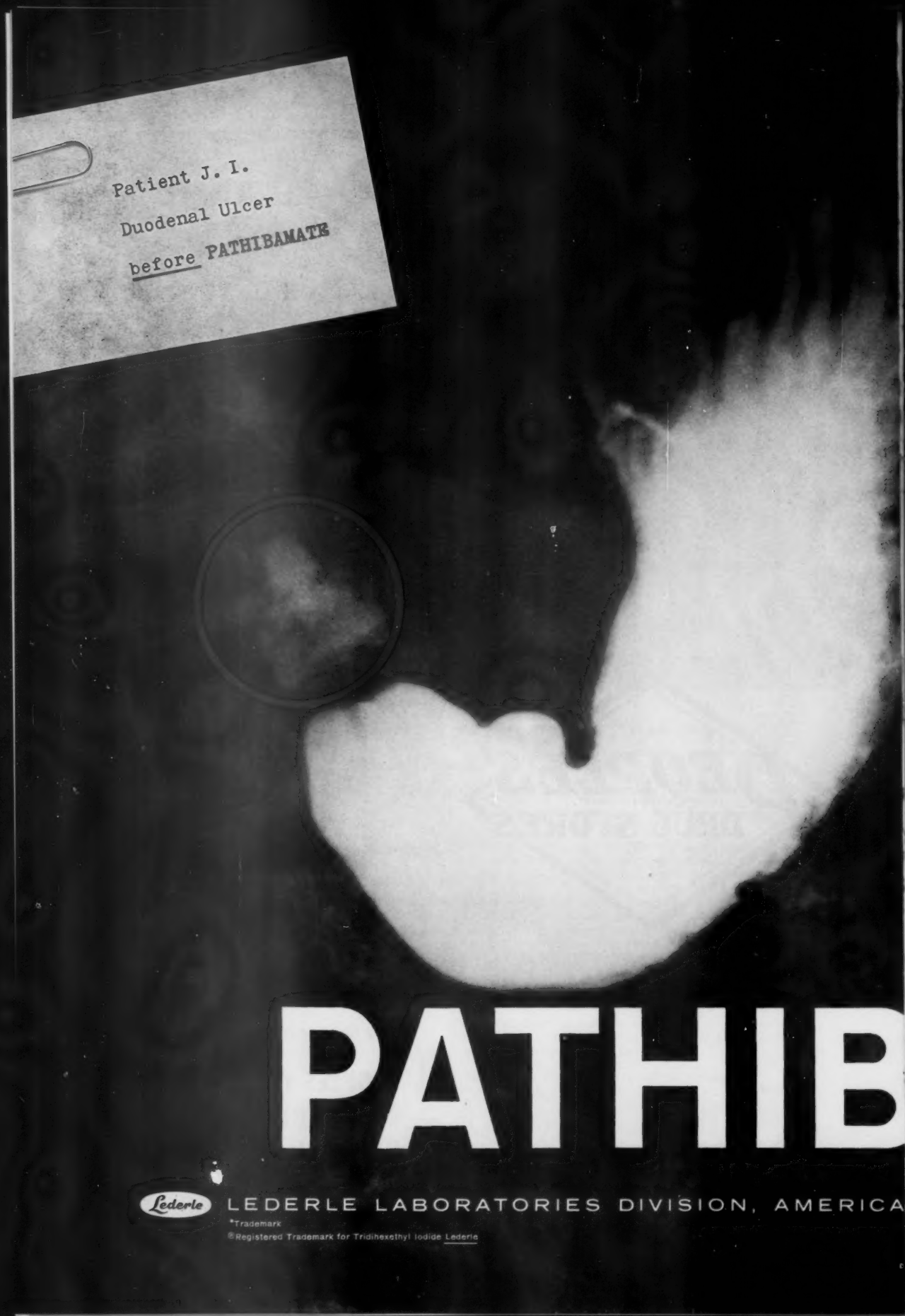

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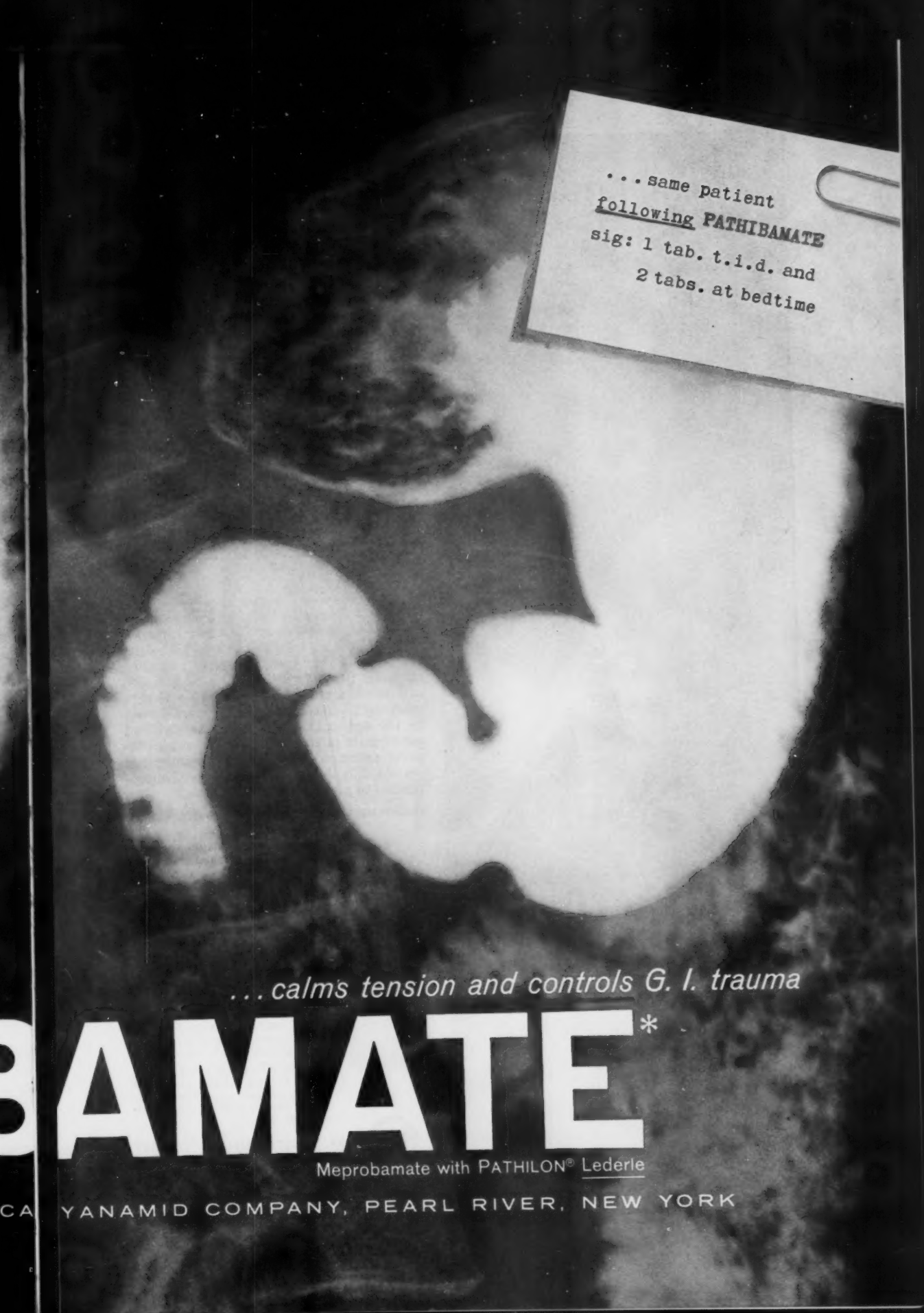
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following PATHIBAMATE
sig: 1 tab. t.i.d. and
2 tabs. at bedtime
. . . calms tension and controls G. I. trauma
BAMATE*
Meprobamate with PATHILON® Lederle
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Hospital practice of infant feeding

Standard one-formula mixture

Normal infant nutrition requires approximately 50 calories per pound of weight. Caloric distribution should be about 15% from protein, 50% from carbohydrates and 35% from fat as formulated for the mixtures in the tables below.

For young infants, a favorable hospital formula consists of a milk and Karo Syrup mixture, isocaloric with human milk, e.g. 20 calories per ounce.

WHOLE MILK FORMULA

FORMULA	OZ.	TOTAL CALORIES	CARB. CAL.	FAT CAL.	PROT. CAL.
Whole milk	24	480	5%	36%	14%
Water	22	—	—	—	—
Karo Syrup	1½	180	45%	—	—

EVAPORATED MILK FORMULA

FORMULA	OZ.	TOTAL CALORIES	CARB. CAL.	FAT CAL.	PROT. CAL.
Evaporated milk	11	484	5%	36%	14%
Water	22	—	—	—	—
Karo Syrup	1½	180	45%	—	—

An infant will usually take 2 to 3 ounces more than his *age in months* at 3 to 4 hour intervals to satisfy his appetite and nutritional needs. It is psychologically unwise to force prescribed amounts. Normally, the gain in weight of 6 to 8 ounces a week during the earlier months gradually diminishes to 3 to 4 ounces a week by the end of the first year. The standard one-formula mixture not only provides adequate nutrition when vitamin supplements are added; it also provides educational opportunities to prevent feeding problems.

ADVANTAGES OF KARO® SYRUP IN INFANT FEEDING

Composition: Karo Syrup is a superior dextrin-maltose-dextrose mixture because the dextrins are nonfermentable and the maltose is rapidly transformed into dextrose which requires no digestion.

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Purity: Karo Syrup is processed at sterilizing temperatures, sealed for complete hygienic protection and devoid of pathogenic organisms.

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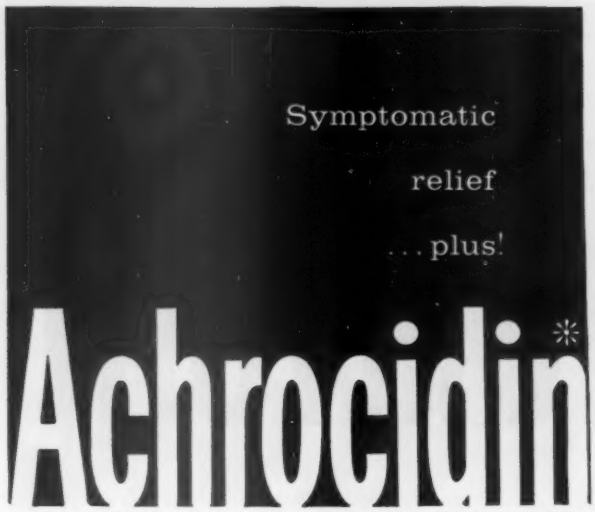

pneumonitis

adenitis

sinusitis

otitis

bronchitis

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Each contains:

ACHROMYCIN* Tetracycline	125 mg.
Phenacetin	120 mg.
Caffeine	30 mg.
Salicylamide	150 mg.
Chlorothen Citrate	25 mg.

Bottles of 24 and 100.

SYRUP (lemon-lime flavored, caffeine-free)
Each 5 cc. teaspoonful contains:

ACHROMYCIN* Tetracycline equivalent to Tetracycline HCl	125 mg.
Phenacetin	120 mg.
Salicylamide	150 mg.
Ascorbic Acid (C)	25 mg.
Pyrilamine Maleate	15 mg.
Methylparaben	4 mg.
Propylparaben	1 mg.

Bottle of 4 fl. oz.

Adult dosage for ACHROCIDIN Tablets and new caffeine-free Syrup is two tablets or teaspoonfuls of syrup three or four times daily. Dosage for children adjusted according to age and weight.
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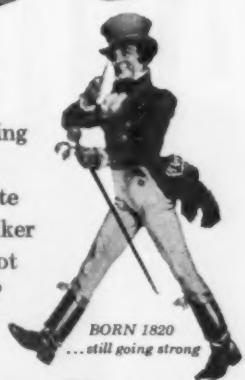

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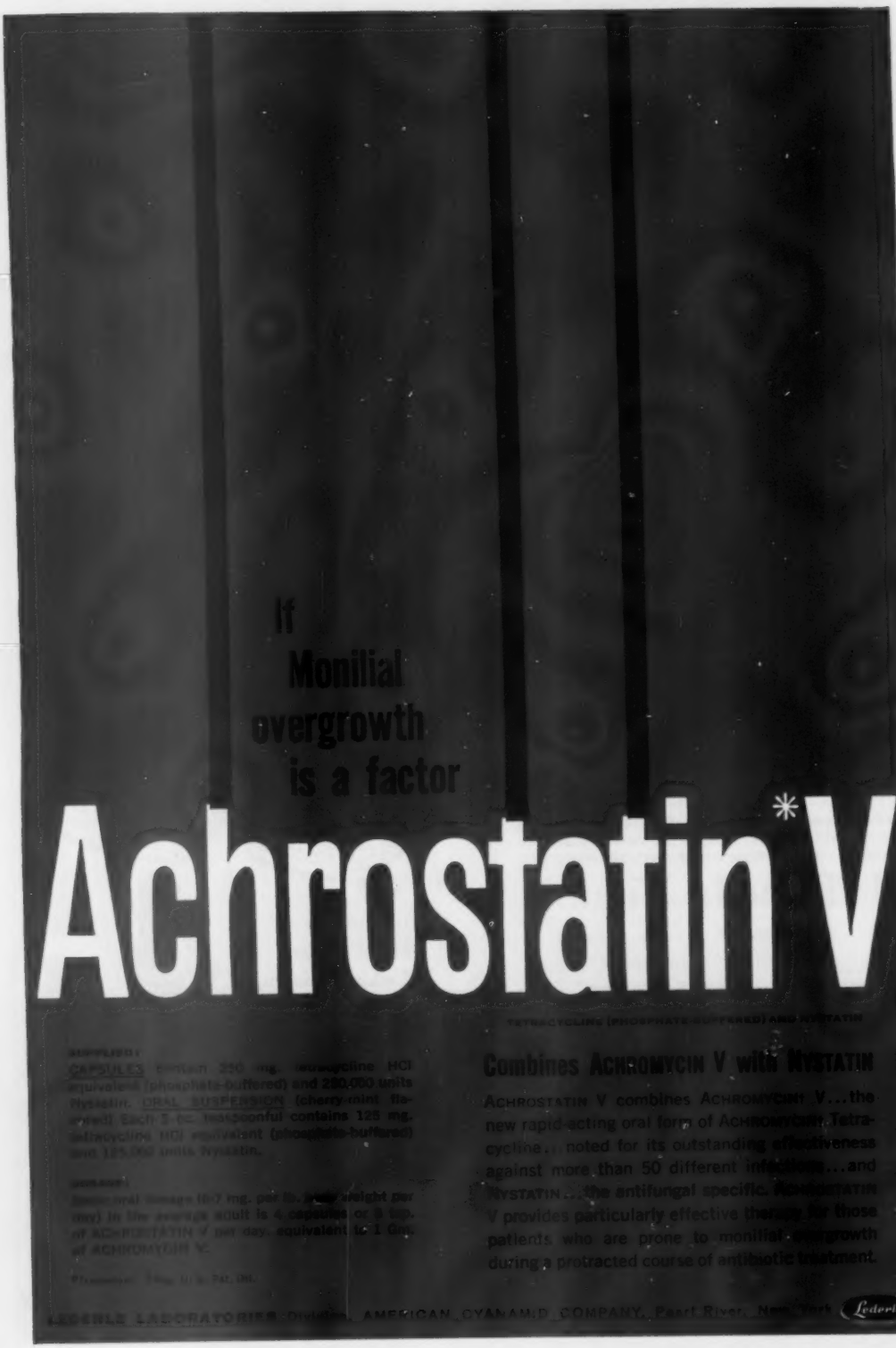
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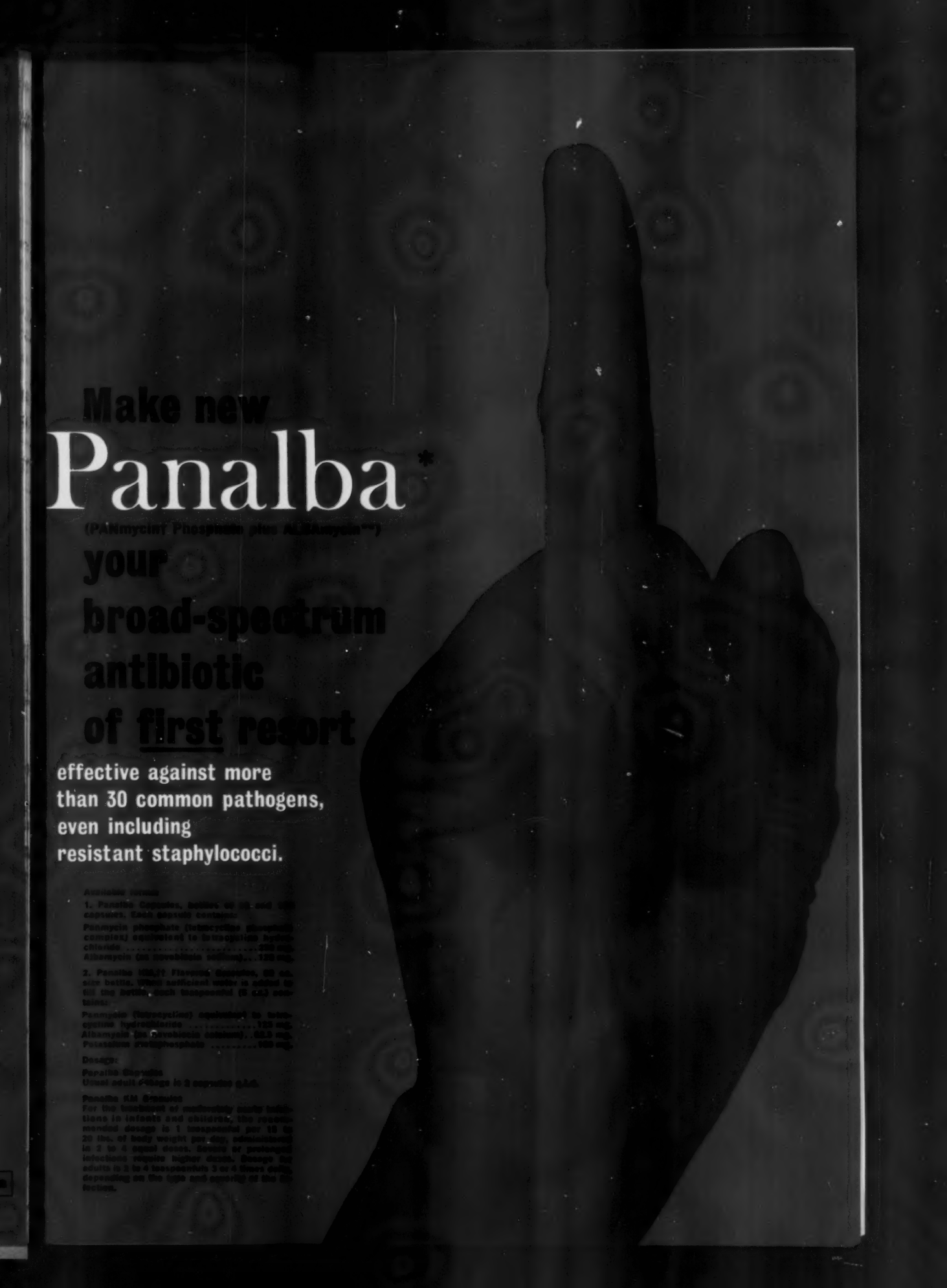
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1. Rein, C. R., Fleischmajer, R., and Rosenthal, A. L.: J. A. M. A. *165*:1821, (Dec 7) 1957.
2. Shelley, W. B., and Pillsbury, D. M.: Personal Communication.
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8. Hellman, L., Zumoff, B., Kretshmer, N., and Kramer, B.: Paper presented at Nephrosis Conference, Bethesda, Md., Oct. 26, 1957.
9. Ibid.: Personal Communication.
10. Barach, A. L.: Personal Communication.
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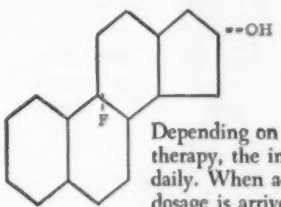

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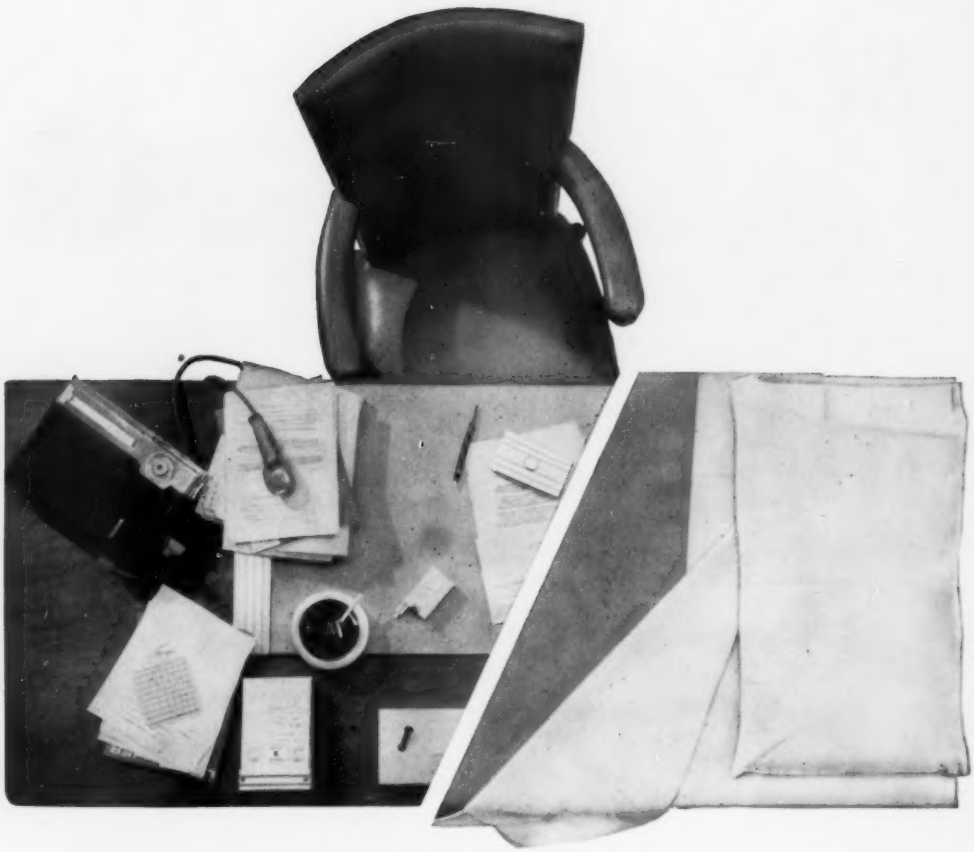

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